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Ross McClure Chapman

PRESIDENTIAL ADDRESS.*

By ROSS McCLURE CHAPMAN, M. D., Towson, Md.

Dr. Meyer,
Members of The American Psychiatric Association,
Ladies and Gentlemen:

May I first express my deep appreciation of the honor you have done me in permitting me to serve as your President during the year just ending and further to thank you for the great privilege of addressing you in that capacity on the occasion of the first meeting of The American Psychiatric Association on the Pacific coast.

It is a happy experience for us all as individuals coming from varying distances to see this great western country. We have much to see and learn here. As we have read history there are no pages more stirring than those which deal with the birth and development of these great Pacific coast commonwealths and the western provinces of Canada. We join you of the west as you look ahead to a surely bright and eventful future.

But to our Association as such this meeting seems to me to have a peculiar significance for from this time and place, youthful at 94, it may look ahead across the boundless frontiers of psychiatric possibilities for the future and more clearly appreciate, with a surer insight, the meaning of the word *American.*

We have as an American association been slow to develop a national—better, a *continental* consciousness.

I venture to express the belief that this meeting in San Francisco demonstrates that such a consciousness is being aroused; that as an association our interests do not stop at the Appalachians, the Mississippi River or the Rocky Mountains, but are becoming truly American. It is on this subject that I address you tonight.

In view of what I shall later have to say it seems wise to speak of two things; first the background of our Association and second its present organization.

* Presidential address delivered at the annual dinner at the ninety-fourth annual meeting of The American Psychiatric Association, San Francisco, California, June 6-10, 1938, Dr. Adolf Meyer, presiding.

May I then by way of introduction be briefly historical? It was in 1844 that a few medical superintendents of mental hospitals in the east formed an association which was the beginning of our Association of today. It was called the Association of Medical Superintendents of American Institutions for the Insane. In 1893 it changed its name to the American Medico-Psychological Association. The following significant historical note of this change is made: "The general sentiment seemed to be that instead of being an association of superintendents of institutions for the insane it should become an association for the treatment of the insane and the study of insanity." In 1921 it assumed its present title. Our JOURNAL, the first medical journal in the United States and Canada devoted to mental diseases, first appeared in 1844 with the birth of the Association under the name, "AMERICAN JOURNAL OF INSANITY" and took the name of "AMERICAN JOURNAL OF PSYCHIATRY" in 1921.

The Founders in establishing the JOURNAL coincident with the Association certainly demonstrated that they were men of both vision and strong conviction.

The varying interests of the Association, reflecting psychiatric progress through the years, are indicated naturally by the programs of the annual meetings. The early programs were more essentially administrative, humanitarian and philosophical (though clinical and pathological papers of merit were presented).

During the past 30 years the interests of the Association as reflected in the program material have altered and broadened due to the recognition of the significance of personality development, the method of approach and the dynamic interpretations of Adolf Meyer, and the very important contributions of Sigmund Freud. Moreover, during these years came the birth and growth of the mental hygiene movement and the results of successful research in the organic field. It is essential to add, however, that this natural development of the interest of the Association in the direction of clinical study and research has not been, nor can it ever be, at the sacrifice of the study of administrative method and policy. The rapidly increasing number of psychiatrists in private practice, the development of special clinics, the growing appreciation of the value of psychiatry in the management of certain problems incident to education and industry are all manifestations of sound progress,

but the heart of psychiatry, its *vis a tergo,* must be hospital psychiatry. It is in the hospital that psychiatrists are developed. The hospital must continue as the post graduate educational center. It is here that the young physician finds his first opportunity to study under direction, among others, that essential thing in clinical psychiatry, the relationship of the individual to his total cultural environment. Without sound hospital administration, clinical study and research cannot prosper.

Let us equally briefly examine our Association from the organization and operations point of view. Our original membership of 13 has grown to 2000 members and Fellows.

The Association is incorporated and is eligible to receive and administer funds.

Our internal governmental organization has proven thus far sound. It has for years adequately met our needs. There has been criticism. There must always be criticism in a healthy organization of this size. Moreover, modifications will doubtless become necessary from time to time as new conditions as to growth and outlook require.

Every large association must have for the sake of administrative effectiveness a central executive committee. This function is exercised by the Council whose acts must be referred for approval to the Association at its annual meeting. Continuity of interest and action is assured by the method of replacement of Councillors for the three-year term, only four of the 12 members being elected each year. One of them is, in practice, the outgoing President. During the years that I have studied the organization the Council has been of high quality. Its members have been interested, regular in attendance and efficient.

For the purpose of meeting immediate emergencies not sufficiently serious to warrant calling the Council into special session there is an Executive Committee, answerable to the Council, made up of the President, Vice-President, Secretary-Treasurer and two Councillors. Any action of the Executive Committee must be reported to the Council at its next meeting.

The President and the Committee on Nominations must be constantly on guard to see that officers nominated and members of committees appointed are truly representative—regionally representative when possible. It is most important that the President

in his committee appointments constantly seek new blood. The new committee member of today becomes known, his value is appraised and he becomes the committee chairman, Councillor or officer of tomorrow.

Officers, Councillors and members of committees must be Fellows. Fellowship, therefore, carries with it special responsibilities. As is the case with election to membership so the standing of the applicant for Fellowship is carefully scrutinized. Incidentally I have for a long time felt that election to Fellowship in the Association should be marked by certain ceremony, simple, dignified, indicating to both the Fellow newly elected and to the Association an event of significance. Such a convocation, which the newly elected Fellows would be expected to attend, might well be held on the evening of the annual dinner and the address of the President given at that time.

With these brief references to background and organization I will continue. I have said that as an American association we have been slow to develop a continental consciousness. Not until we have such a consciousness will we have achieved a mature conception of our responsibilities and obligations. If this Association has indeed achieved maturity, if it has as an American institution self-respect, dignity, courage and the determination to progress, to meet its problems squarely, if it offers indeed the greatest forum for the discussion of all the many and varied psychiatric problems which recent years have developed, then it may be valuable to look at the American psychiatric scene of today and to consider critically how our Association appears on that scene and how it may properly function to greater advantage.

It seems a wholly reasonable statement to make that a person suffering from tuberculosis, whether in Quebec, Kentucky or Arizona, will receive adequate medical attention, both from the point of view of diagnosis and treatment. The patient with appendicitis, living in Florida, Oklahoma or Alberta may feel fairly confident that confronted with this emergency he will be adequately cared for.

From Maine to California there is probably little variation in the attitude of the departments of health of the various states as to the recognition, treatment and control of contagious diseases. The situation as to mental diseases is, however, very, very different.

To the informed psychiatrist as he slips over state or provincial lines from the Atlantic to the Pacific his journey is grimly thought-compelling. He passes through towns and cities where no psychiatrist is to be found. In one state and others to the north and south of him the budgets of the hospitals caring for mental diseases are cut to the starvation point. Housing is inadequate, as is medical and nursing care. Out-patient clinics do not exist. The important function of the state hospital as a contributor to community and professional education is impossible of performance. The young physician seeking to become a psychiatrist finds training facilities lacking and he either abandons his plan and goes into some other field or continuing his hospital life finds himself lost under an administrative and clinical load of detail that is impossible.

Then comes a state whose mental hospitals have for many years been subject to political exploitation. Such a commonwealth is in even worse case. Or a state whose state hospital system has become a victim of political accident. Such an one is Massachusetts, long a model of state hospital administration for the whole country, which finds itself in this respect today still disorganized as the result of the disastrous action of a ruthless and vengeful governor during the last month of his term of office. I should say that we need not worry too much about Massachusetts. Its citizens have been too long conditioned to sound hospital administration and treatment, they are too thoroughly oriented as to mental hygiene, and further, the state medical leadership is too intelligent to permit present conditions to continue to exist. Our friend, William A. White, long medical superintendent of St. Elizabeth's Hospital, confronted with a hospital accident, or attack from without, always used to say, "How can we capitalize on this disaster for the benefit of our patients?" Such will be the attitude of Massachusetts.

Our psychiatrist as he travels across the country thinks of these depressing facts, but also casts back over the developments of 25 years and finds another and happier side of the picture. In these few years almost unbelievable changes have come about in psychiatric thought and practice and promise of the future.

General medicine and surgery are awakening to the importance of giving consideration to the total individual, whatever his physical ailment may be. Psychiatry has been given a much more prominent place in the curricula of our medical and nursing schools. The

horizons of the parent, the educator, the psychologist, the social worker, the clergyman, all those who have to do with the upbringing of the young, have been greatly expanded. The mind of the public generally shows an obviously intensified interest in mental disease and what precedes it. There is less of fear and more of hope.

He sees our Association awakening, changing rapidly within comparatively few years from an isolated, shut-in, timid, craft-union type of society to a genuine medico-scientific body with a recognized place in medicine and conscious of its importance in the field of the medical and biological sciences.

And then again our traveller as he crosses the continent turns to the darker side and thinks, to paraphrase the words of George Kirby, of the lessened but still present conservatism of medicine and its lingering prejudices against all forms of mental therapy which has left much of the psychiatric field to be exploited by non-medical practitioners; and he rather grimly returns to the realization that squarely on the shoulders of psychiatry falls the obligation of direction of varied and often divergent forces, the providing of essential public education and medical teaching and leadership—and the obvious dangers of continued failure to provide such leadership.

It is here that we must confess that while ours is a highly respected old Association it is I fear slow, somewhat blind and certainly not very wideawake to our responsibilities in a troubled world which cries out on many fronts for psychiatric help.

If our Association is to actually extend its sphere of usefulness, if it is to become a greater force in American medicine, then certain of its activities must cease to be episodic or intermittent, dealt with only at an annual meeting. They must be continued throughout the year. Let us look briefly at some of the more obvious projects, all educational, which devolve on us.

First.—The Association is largely quite ignorant of its component parts—that is of the members and Fellows that make it up. We know that financially the Association is very poor but we have reason to believe that in quality of personnel we have real wealth. The Association should accomplish a searching tabulation which will reveal just what that wealth is.

A President looking through the list for a man for appointment to a committee from a certain region finds names but nothing further to guide him.

A hospital superintendent seeking a physician to fill an important post hears of a man in a distant state who is said to be promising but finds no readily accessible source of further information. A Foundation official wants immediate information regarding a member or Fellow but it is not at hand. And so a physician seeking a consultant.

There are a large number of undoubtedly able men and women more or less buried in their work in every part of the country whose special interests and competencies need to be known.

A scientific directory should be prepared and revised at suitable intervals which will give the name of every member and Fellow of the Association—his date of birth, educational background, pertinent information as to his professional career, his demonstrated abilities within the field, his research interests and indication as to the range of his scientific contributions to psychiatry. Such a directory would be of inestimable value to the Association itself and enhance its standing elsewhere. It should be an Association project and should be consistently maintained by the Association. Private funds may be available for the arduous, painstaking and time-consuming work incident to its initial publication.

Second.—There should be established in the offices of the Association or at some central point a bureau, if you will, the function of which will be to collect data dealing with past and present special studies in psychiatric and related fields. There is at the present time no way, save accident, by which a physician, let us say in Montreal, can discover what may already have been done on a problem that is interesting him. He may strive for a year or more to discover the error in his approach which has been demonstrated already in several studies elsewhere. He may become discouraged in his pursuit of a method before he shall have repeated half the mistakes that are already known a few miles away in Boston. It would be clearly of inestimable value to him if he could write to the bureau and there find whether his problem had been approached, if so by whom, whether progress or findings had been published, if so where, and such other data as it seems desirable to accumulate.

It would be greatly to the advantage of American psychiatry and enormously helpful to the individual physician if at some central point the many threads could be brought together. Even letters of inquiry, duly indexed and later if need be referred to, would be of significance as indicating an interest in common with someone else. It would be well if the Committee on Research were asked for their recommendations as to this project.

Somewhat related to this is the obvious need for a bibliographic and abstract service to be conducted on a subscription basis. Such a service might well be undertaken by one of our psychiatric journals.

Third.—The third project to which I would call your attention is that of a well planned and vigorously executed program of public education in which the news columns, the editorial page and special newspaper articles should be used to present matters of concern to the public welfare.

To this end the various psychiatric societies of this country and Canada should be encouraged to send papers presented at their meetings to the Committee on Public Education. Particularly should this apply to those psychiatric societies affiliated with the Association. The practical accomplishment of this project, the wisdom of which it would seem is undoubted, requires serious study, for this matter of the establishment of public relations for psychiatry is not a simple business. The program thus far has been non-existent or haphazard and misleading. A far-seeing policy of public education must be worked out. When participation in the work of this Association carries with it sufficient appreciation of personal responsibility—reckless self-seeking, if not actually misleading publicity will be regarded as a violation of such a public educational policy.

In brief, there should be developed a more satisfactory and co-ordinated news release service of continental scope.

Fourth.—We should be and are deeply concerned over the variations of attitude toward the mentally disordered and standards of care and treatment of mental diseases in the various states and provinces. We must face the fact that little or nothing is to be accomplished in this field by aggressive action. The Association as such cannot step into a troubled state to give unsolicited advice. Reasonable conformity of attitude which will wipe out state lines

can only come through the wide acceptance of the fact that mental diseases constitute the gravest remaining problem in the field of the public health in America. The coordinated efforts of many civic groups is necessary to bring about understanding and acceptance of this fact.

Hand in hand with it must develop the quiet conviction that the mentally sick must be adequately cared for and given the opportunities for recovery afforded by modern psychiatric treatment; further, that there are preventive measures to be taken that can no longer be neglected.

This is a long-time educational project which must have the strong and continuing support of the Association.

Practically there should be coordinated effort on the part of existing local and regional psychiatric societies towards the presentation of educational programs. It might be feasible in some sections of the country to create speakers bureaus. I have no doubt that the Association will in the course of time be able to furnish speakers of distinction for such programs when necessary at its own expense. Membership in such local and regional societies and in this Association should be encouraged. State and regional societies, the affiliations of which were so strongly recommended by James V. May now thus identified with the Association, include the Connecticut Society for Psychiatry, the Massachusetts Psychiatric Society, the New England Society of Psychiatry and the Southern Psychiatric Association. The American Psychiatric Association welcomes further such affiliations. The relation between affiliating societies and the Association should not be merely perfunctory. The administrative offices are always open. The President and his executive committee are available. The interest and effort of all psychiatric societies and the Association must be coordinated if we are to meet the challenge of the American psychiatric situation.

Fifth.—Save for medical attention there is no service which is of such importance to the patient as that of nursing. The Association has under its auspices 48 duly accredited nursing schools in psychiatric hospitals scattered over the continent in various states and provinces. These schools have never been inspected or visited by us. Their only contact with the Association is through a questionnaire sent to them annually. We have practically no knowledge

of their circumstances and problems. We know little of the standards of the various state or provincial nursing authorities to whose rules they must conform. Nor can we learn much about them from the National League of Nursing Education. Our own standards set them are minimal. The Association should have in its employ at least one graduate nurse with public mental hospital experience whose time would be spent almost entirely in the field. She should be tactful, resourceful and a good public speaker. Not only should she inspect our accredited schools and bring to them helpful suggestion and advice, but she should become known to the state and provincial authorities and be able to appraise the total state nursing situation. The regular appearance of such a capable representative of The American Psychiatric Association would have far-reaching effects. Her reports to the Committee on Psychiatric Nursing would permit intelligent consideration of important nursing questions and policy. Be she of the right type there is no doubt that psychiatric nursing would in a reasonable time have a contribution of its own to make to national policy in nursing education.

Even with our present preoccupation with pharmacological shock treatments we are not going to be led away from the great importance of both the technical training and the personalities of those who make up the 24-hour environment of our patients.

Sixth.—It is of first importance that facilities be provided for the psychiatric training of young physicians. Since the formation four years ago of the American Board of Psychiatry and Neurology the necessary scope and character of such training has become increasingly well defined. There is a constantly swelling stream of applicants. There are nowhere near enough junior resident vacancies to take care of them, and yet there is a desperate need of psychiatrists in many fields. In 1937 hospitals approved for the training of internes and residents in psychiatry by the Council on Medical Education and Hospitals of the American Medical Association numbered 94, most of them general hospitals. The number of such residents in training was 279—an average per hospital of three.

At the present time a committee under the chairmanship of Dr. Walter L. Treadway, Assistant Surgeon General of the U. S. Public Health Service, is engaged in conducting a survey of the

mental hospitals of the United States and Canada. Represented on that committee are:

The National Committee for Mental Hygiene.
The American Medical Association.
The American Board of Psychiatry and Neurology.
The American Neurological Association.
The American Psychiatric Association.
The United States Public Health Service.
The Canadian National Committee for Mental Hygiene.
The Canadian Medical Association.

The survey is largely financed by one of the great Foundations. This Association contributed $5000.00. The purposes of the survey include the determination of what public hospitals are now available or may be made available for the training of physicians both in the United States and Canada. When on the first of July, 1939, the work of the committee comes to a close we should have in its report an accurate picture of available post graduate teaching facilities as well as a clearer concept of the whole American psychiatric situation. This will doubtless form the basis of constructive thought and action.

It is to be hoped (and this should receive the full support of the Association) that certain state hospitals and other state and provincial hospitals to serve regions may be properly manned and equipped as teaching centers. *How* this may be accomplished, to what extent state aid in one case, regional aid (that is from two or more states) in another case, private subsidy in a third, may be made available, it is too early to say, but psychiatric educational opportunities are now too pitifully inadequate and the need is too great for us not to give this subject earnest consideration.

I have indicated briefly some of the activities that The American Psychiatric Association should champion if it is awake to the needs of American psychiatry. To effectually play its part the Association needs money. The simplest increase in effectiveness of one of its committees requires money—if only for postage. Here we deal with a public health demand which is beyond compare. Only one course is open to us and that is to secure funds. Funds for educational purposes. Funds for fellowships in clinical psychiatry, for fellowships in hospital administration, for the extension of

nursing education, for the travelling expenses and honoraria of speakers, for the furthering in every way of an important educational movement.

Through the years certain great Foundations and one important fraternal organization have generously contributed money for psychiatric clinical research, for child guidance and mental hygiene clinics, for fellowships. For this most timely support our Association is in debt not only to these far-seeing Foundations, but to the initiative and energy of the National Committee for Mental Hygiene which we must admit has been carrying a burden obviously our own insofar as purely medical responsibility is concerned.

The time has come now for us to recognize all the implications of our responsibility for psychiatric education and the public welfare.

I suspect we have been blind to the depth and sincerity of interest on the part of the public in the advances made in our understanding of mental diseases and their causes during the past 25 years. And yet proof of its existence lies all around us. One has but to go to any public library and ask as to the selection of books on the part of the more thoughtful reading public to find what one of their major interests is. There are thousands of parent and teacher societies and associations that cover this country and Canada. Usually where there is a public school there you find a parent and teacher group. The chief present day interests of these associations, that is those dealing with the development of sound personality, were born of psychiatric clinical study and research which disclosed *facts* dealing with the correction of malbehavior in child, adolescent, and youth. The psychiatrist has been called upon for years to lecture before such groups. The parent and teacher associations are now organized into state congresses and from these stems a National Congress, an active and influential body. It does not seem to me at all unlikely that here may exist an organized interest of significance.

How may we estimate the interest in the extension of psychiatric education which may be aroused in the minds of families having a member who is or has been mentally sick? There are about 500,000 such patients in our mental hospitals alone at this time. How may we estimate the interest in the extension of psychiatric education which may be aroused in the minds of those many

thoughtful men and women who make up the membership and boards of directors of our mental hygiene societies, and of our hospital boards; men and women whose constructive efforts are already reflected in their interest in delinquency and in the establishment of juvenile courts?

What may we say of educators themselves? Their interest, stimulated by the contributions of psychiatry, has demonstrated itself in the establishment of special classes in the elementary schools and playground supervision, in the development of mental hygiene divisions in the student health departments of our colleges and universities, in the changes made in the educational program of those who would themselves become teachers.

The horizon of the psychologist has broadened. The interest of the social sciences is stirred and already between them and psychiatry exchanges of importance occur.

To the curricula of the theological schools and seminaries psychiatry is contributing new knowledge of the emotional conflicts of children and adults with which the clergy of every faith must ever deal.

Throughout the whole social educational cultural American world a leaven has been working which is the result of psychiatric research. How may we evaluate the interest in psychiatric education of the many groups who have benefited by it? I think we have been far too naive to appreciate the significance of that interest.

What I am about to propose has to do with the matter of weighing and appraising and utilizing the undoubted interest of many groups; of coordinating these interests and of concentrating them on the basic need of extension of psychiatric education.

We have on the roster of our Fellows some of the best clinico-administrative minds in American medicine. I believe that from the number of such men a committee on finance or on finance and education should be appointed of not less than nine members selected regionally, the necessary expenses of which, including those incident to travel, should be paid for one year from the funds of the Association; that this committee should have as its immediate duty thorough study of ways and means whereby The American Psychiatric Association may, first, estimate, weigh, evaluate public interest and, second, consider ways and means for

conducting a public campaign for funds to be used for purposes of psychiatric education in Canada and the United States.

The committee should seek advice freely and should study the organization of bodies conducting similar national campaigns. Lessons are doubtless to be learned from such organizations as the National Red Cross and the National Tuberculosis Association. Obvious lines of study include the feasibility of state, provincial or regional organizations and the selection of leaders for such organizations, the preparation and distribution of simply worded literature which would deal with what psychiatry has done thus far for the public and what the purposes of the campaign are to be; the best methods and avenues of public appeal; the determination of policies; the selection of other organizations, such as state mental hygiene societies, parent and teacher associations and other bodies whose interests are involved, for their possible cooperation. Those great organizations now giving their support to the Mental Hospital Survey should be consulted and their moral support obtained.

I believe that throughout all these groups of our American people there is a perhaps not fully crystallized but none the less real appreciation of the fact that psychiatry deals with the public health, with preventive medicine, and that *medical leadership* is finally essential throughout all the ramifications of its educational interests.

There rests on us the heavy responsibility for a broad, genuine (no longer haphazard) educational program. Medical leadership must be furnished. Trained personnel must be produced.

It is to our deeply interested public that we should turn for help.

I hope that I may, in no way, be misunderstood. I have tried to be simple in this exposition of the plain demands on The American Psychiatric Association which, unless we wish to suffer heavy penalty, can no longer be evaded or placed on other organizations.

If there be virtue in what has here been written, and if action should be taken, we must realize that there must be long study by a most carefully selected committee before practical plans for appeal to the public for funds can be made.

In conclusion I return, it seems to me inevitably, to those 13 men, who 94 years ago created this Association and, as evidence of faith, established our JOURNAL. I would like to think that at this time of crisis, when the quality of our medical leadership is at stake, we may find in ourselves a vision and courage equivalent to theirs.

ROSS McCLURE CHAPMAN, M. D.

President, 1937-38.

A Biographical Sketch,

By WILLIAM J. TIFFANY, M. D.

Ross McClure Chapman, President of The American Psychiatric Association for the year 1937-1938, has had a happy and fruitful career as a clinical psychiatrist, educator, and hospital administrator. He was born in Belleville, Jefferson County, New York, July 13, 1881. His father was Dr. Eugene A. Chapman, a greatly beloved physician who practiced for many years in Jefferson County. His mother, Agnes McClure Chapman, divides her time between the home of her son and that of her daughter, Mrs. Richard Valentine, Stafford Springs, Connecticut. Dr. Chapman attended Union Academy of his native village and graduated therefrom in 1898. Having determined to follow his father's profession, he entered Syracuse University in the same year and took a three-year pre-medical course. His professional training was received in the medical college of the University of Michigan from which he graduated in 1905. Later, he took a course of special training at the New York Psychiatric Institute under the direction of August Hoch.

Following graduation, Dr. Chapman began general practice in Watertown, New York. After a year's experience his interest in psychiatry led him to accept appointment, December 1, 1906, as an interne in Utica State Hospital, Utica, N. Y. The following year he was transferred to Binghamton State Hospital.

On December 29, 1908, shortly after taking up his work at Binghamton, Dr. Chapman married Marion E. Clapp, of Ithaca, New York. Their only daughter, Mary Harris, died in early youth.

At Binghamton State Hospital, he came under the influence of Dr. Charles G. Wagner, one of the leading state hospital administrators of his time. Encouraged by his superintendent and enthusiastic in his work he was soon promoted through the successive grades of medical positions in the state hospital to senior assistant physician.

Most of Dr. Chapman's work in Binghamton was in the reception service of the hospital where his interests rapidly widened to include both organic and psychical viewpoints of mental diseases. He was not satisfied with the formal psychiatry of the period but sought for more dynamic concepts. He was among the first of American psychiatrists to recognize the value to psychiatry of Sigmund Freud's contributions to the subject of the unconscious through free association and dream interpretation. As Freud's theories developed and threw light upon mental mechanisms, Dr. Chapman used them in his study of cases and made clinical contributions among the first in this country to the then controversial subject of psychoanalysis. The excellence of his clinical work, and his skill in administration brought him into prominence and in August, 1916, he was chosen by Dr. William A. White for the important position of first assistant physician in St. Elizabeth's Hospital at Washington, D. C.

It is interesting to note that Binghamton State Hospital which gave him his early psychiatric training has furnished four presidents to The American Psychiatric Association. These, in addition to Dr. Chapman, were Dr. Charles G. Wagner (1916-1917); Dr. William A. White (1924-1925), and Dr. James V. May (1932-1933).

In St. Elizabeth's, he came into an environment ideally suited to his inclinations and enthusiasms. His work and association with Dr. White were mutually helpful. Dr. Chapman took over a large part of the administration of the hospital thus affording Dr. White a better opportunity to continue the research and literary work which has contributed so greatly to the advance of psychiatry in this country. The experience thus gained by him together with his teaching eminently fitted him for the position of superintendent of Sheppard and Enoch Pratt Hospital to which he was appointed in 1920 to succeed Dr. Edward N. Brush, a former President of The American Psychiatric Association. Under Dr. Chapman's management and guidance during the past 18 years the work begun by Dr. Brush has gone forward and this famous old hospital has been enlarged, improved and equipped with modern facilities and is recognized as one of America's leading endowed institutions for the care and treatment of mental patients.

Dr. Chapman's work as a teacher of psychiatry began while he was in St. Elizabeth's in 1916. He was appointed instructor in psychiatry in George Washington University in that year and continued in the position until 1920. Soon after taking up work at Sheppard and Enoch Pratt Hospital, he was appointed associate professor of psychiatry in the University of Maryland, and in 1923 was promoted to professor of psychiatry in that institution. In addition to the stimulating influence exerted by him on the students of psychiatry in these universities, perhaps a still greater influence has been wrought on the young men whom he has gathered about him to constitute his medical staff. Several of these physicians have already won distinction in the psychiatric field.

During the World War Dr. Chapman was commissioned Major in the Medical Corps of the U. S. Army. He served as division psychiatrist of the Sixth Division of the A. E. F. Later, he was assigned to the Army of Occupation in Germany and served in various Evacuation Hospitals.

Dr. Chapman has been active in The American Psychiatric Association for many years and has served as councillor and on several important committees. His genuine friendliness and congeniality have made him one of the most popular members of the Association.

Dr. Chapman is a member of many scientific organizations including, in addition to The American Psychiatric Association, the American Medical Association, the Southern Medical Association, the American Psychopathological Association, of which he is a former President, and the American Psychoanalytic Association.

THE MIND OF THE CITIZEN.*

By HIS EXCELLENCY, THE RIGHT HONORABLE LORD TWEEDSMUIR, P.C., G.C.M.G., C.H., LL.D.,
Governor-General of Canada.

I am glad to be here today, and to add my voice to the appeal made by this committee for the study of mental hygiene in Canada. I do not know what the experiences of others may be, but I can give you my own experience. I find today among the younger generation at home nervous afflictions which I do not think were common in my own youth. I find something more disturbing. Many of my contemporaries, men who are often holding distinguished posts, are beginning to suffer from sudden mental breakdowns, and a career of achievement often ends in darkness. One is forced inevitably to the conclusion that there is that in our modern life which puts a far heavier strain on the mind than anything our grandfathers knew.

What is the cause? Many causes, I think. Partly the terrible social derangement of the war, the effects of which are by no means exhausted. Partly the unsettlement of the world, which infuses in certain temperaments a perpetual nervous fear. Partly the fact that the scientific apparatus of life has been so speeded up and elaborated, and that human nature has not yet fully adjusted itself to it. Partly the decline of religion, which gave our fathers a shield against the buffets of fate.

These conditions are common to all the world, but in Canada we have certain special causes—extremes of weather which put a strain on the nervous system, violent economic ups and downs, the loneliness which afflicts people dwelling in the wilds far from neighbors. It is a problem which touches every civilized nation, and Canada assuredly is not immune from it. As you have heard, in this Dominion there are more occupied hospital beds for the mentally afflicted than for all other types of illness put together. Thirty thousand people are being treated at this moment in mental hospitals

* Address delivered at the twentieth annual meeting of the Canadian National Committee for Mental Hygiene, McGill University, Montreal, March 21, 1938.

at an annual cost of more than ten million dollars. Out of every hundred children now in our schools four, under present conditions, are doomed to suffer from mental ailments. There can be no doubt about the urgency of the problem.

It is 65 years since Disraeli declared in a famous speech that "the first consideration of any government must be the health of the people." We have taken that advice to heart today. The health services have become a major part of the duties of every administration. Only the other day there died in New Brunswick the first health minister appointed by any government. We are beginning to interpret health in a wide sense—health of the mind as well as of the body. We are coming to realize more and more the intricate connection between body and mind, that physical well-being is nothing unless it is accompanied by mental well-being, and that the latter is the more vital since it is the more fundamental. You remember Cromwell's words in his address to his 1656 Parliament—"Truly these things do respect the souls of men and the spirits—which are the men. The mind is the man. If that be kept pure, a man signifies somewhat; if not, I would fain see what difference there is betwixt him and a beast."

Today we have come to the wise conclusion that hygiene and therapy must cover the whole area of human needs. We have specialists of every kind in mental ailments who are trained doctors, skilled to understand the physical as well as the spiritual make-up. I have heard it said of a great physician that he was a "therapeutic personality," which meant that he had a beneficial influence upon the patient's mind as well as upon his body. I think that we have recovered a truth which was well recognized long ago. The great medical university of the Middle Ages was Salerno, and there the students, before they entered upon their medical curriculum, had to give three years to logic and psychology, that is, to the study of the mind.

It seems to me that a committee such as this has three principal duties before it, all of which it has fully recognized. The first is research—the application of science in all its branches to mental therapy. There is always apt to be a lag between the discoveries of science and their practical application, and the lag is most conspicuous in a subject like mental therapy, which is on the borderline of so many sciences. It is the aim of this committee to do what

Plato desired, to bring philosophy out of the study into the market place, science out of the laboratory into the hospitals and the schools. There is first of all medical science in the narrow sense, the use of drugs and vaccines, many of which have a direct curative effect on mental disorders. I would instance the new "insulin shock" treatment for schizophrenia, which I understand is giving good results. And in the second place there is a mental science itself, psychology, which in my lifetime has become a new science, ever since the inductive method of enquiry was adopted by Wundt at Leipzig in his famous "psychological laboratory." The work of the Viennese psychologist, Freud, in his investigation of the subconscious has opened the road to many fruitful lines of study. Like all discoverers, Freud, I think, tends to exaggerate his conclusions, and unhappily his work has been seized upon by popular novelists who have turned what is a serious science into a comic jargon. But there can be no doubt about the value of this new technique, and we are only beginning its application. Let me add that in this work of research the committee can do a thing of immense value. It can search out and stultify the charlatan. At the commencement of a new study there is a magnificent chance for the quack, and there can be no task of greater public importance than to protect the sufferer against the cruelty of false hopes and bogus remedies.

Our second duty is administrative. We have to survey the field, to understand the special problems created by different industries and different modes of life, and to help to combine the isolated efforts of governments and voluntary agencies into a well thought-out system. That is especially needful in a country like Canada, which possesses a federal government and nine provincial governments. And here let me say that this business of mental hygiene cannot be left wholly to the governments. There is need of the cooperation of the private citizen. This committee is a fine example of that voluntary effort which I believe is indispensable, for here you have had for 20 years a group of Canada's leading citizens giving their time and money to a piece of public service.

The third, and perhaps the most important task of all, is preventive—that is, educational—dealing with the child who is predisposed to the mischief before the mischief develops. A very great deal can be done with shy and backward children if they are rightly

handled at the beginning. A wise teacher who lays himself out to understand a child's difficulties can often remove them before they become a chronic twist in the mind. For this purpose we must train the teachers in mental hygiene, and thereby we will not only fit them for this specific purpose, but make them more efficient in their normal educational work.

In the wide field of education there is one truth which we must keep before us, for it is the root of the problem. We must stimulate in children a variety of wholesome interests: interest in the world around them, in real things, for the best way to keep out the abnormal is to fill the mind with normal human preoccupations. If young people have the world of books open to them, and the world of nature, and of sport, they will have no inclination to become morbid in their thoughts. The proper way to cure what the psychologists call introversion is a reasonable dose of extraversion. That is where the value comes in of a child's hobbies. Encourage them. The fuller the stable is of hobby-horses the better. That, too, is one of the chief advantages of a movement like the Scouts and Guides. It is a perpetual opening of new vistas to youth, and a discipline of the mind as well as of the body.

There is another thing worth remembering. In such a task we may not only be restoring the abnormal to the normal and preventing suffering in later years, but we may be saving for the country minds which may be of the highest value. Look back on history and consider how many people to whom we apply the word "genius" have been odd and unhappy in their childhood. It is often the highly strung, nervous child who, if he is fortunate in his up-bringing, develops exceptional powers of mind and character. There have been geniuses, too, who did great things in life, but who had some warp in them which, if it had been straightened out in youth, would have made them happier and more effective in their careers.

It is a great task to which this committee has set its hand—no less than the proper training of our youth for the struggle of life. We live in difficult times which put a heavy strain on the body and mind. The least we can do is to equip the coming generation to meet that strain, so that, in the words of the poet, there may be—

> "No strife, nor no sedition in their pówers,
> But all things in them friendly and secure,
> Fruitful of all best things in all worst seasons."

THE RESPONSIBILITY OF THE COMMUNITY FOR CRIME.*

By JUDGE PAUL N. SCHAEFFER,
President Judge, Court of Common Pleas, Reading, Pa.

Your committee has asked me to discuss the responsibility of the community for crime. Of course, that subject is too broad to be adequately treated in one paper. But I shall endeavor to direct your attention to certain phases of it.

A crime may be defined as an act, or an omission to act, which constitutes a violation of some rule of conduct prescribed by some legally constituted authority. In general, especially when the statute is but a crystallization of the sense of the community, be it a moral, economic or æsthetic sense, the crime is an abnormal act not only because it is proscribed by law, but also because it is contrary to the common behavior of the people. It has been pointed out to us by certain observers that communities do exist in which the mass of the inhabitants habitually violate some rule of law, for instance, the precept against larceny or the prohibition against the operation of unlicensed stills—or the Volstead Act. A member of such a community who conforms to the common behavior will be guilty of a violation of law, and in dealing with him the problem is far different from that of the offender whose act is not in accordance with the general practice of his fellows. There we have in fact an *entire community* and not a single individual to correct before offenses against the law will be eradicated. Only of a lesser degree are the cases of members of a predatory gang or of a criminal family. They the more readily commit crime because their associates habitually act upon anti-social principles. They do not have the same inhibitions to overcome that face those who have lived in a community and a family where the normal behavior conforms to law.

* Address delivered by invitation at the ninety-third annual meeting of The American Psychiatric Association, Section on Forensic Psychiatry, Pittsburgh, Pa., May 10-14, 1937.

Undoubtedly the actors in most offenses are actuated by hope of material gain. Yet we cannot say that actual poverty causes any considerable portion of our crimes. The early years of the depression, at least, were characterized by a general decrease in the number of cases of juvenile delinquency. This may have been due to the fact that the father spent more time at home and gave more oversight to the children; or it may be that the police and others knowing of the distress of the child or its family, purposely winked at many acts which previously would have led to an appearance in court; or it may have been due to other and more complex causes. During the years just before the depression there was abroad in the land a spirit of gambling. Almost every one took a "flier" upon the stock market; speculation pervaded all strata of society. Men gained wealth on paper over night. This spirit of taking a chance, resulting as it seemed in winning more often than in losing, led others to devise means—just outside the law—which they hoped would bring them gains also. So that era of prosperity was coupled with a high incidence of crime. The advent of the depression wiped out the gambling through wiping out the winnings, and, concurrently, diminished the sorties outside of the law.

If the apparent decrease in the incidence of juvenile offenses in the late twenties and early thirties be attributable to laxness on the part of law enforcing officers, we may well question whether the ultimate results will not be bad. For the force of habit, in the field of delinquency, is just as powerful as in all other fields of human action. Many crimes are in a very real sense the products of habit. When a person for the first time appears in court charged with a serious offense, such as robbery or burglary or a larger defalcation, it is almost inevitable that an accurate case study will disclose that such person had previously committed some lesser offense or offenses, for which he had escaped either detection or prosecution. They had "gotten away with" the simple offense; that fact suggested another venture of some forbidden type as an easy way in which to procure the wherewithal to satisfy some other, perhaps normal and praiseworthy, longing. But the habit of crime was being formed and each successful brush with the law strengthened the influence of that habit and made the next and more daring offense more inevitable.

As distinguished from this subjective drive towards crime on the part of the individual, there is the equally important objective condition of laxity in law enforcement on the part of the constituted authorities, or of actual non-enforcement of law. This, in my estimation, constitutes the greatest crime of all, for it is the parent of many crimes and tends to the breakdown of all law and order. Organized crime cannot long exist without the connivance of the police and prosecuting officers. During the days of the unlamented 18th amendment it was common knowledge that the forces of law could not be brought to an earnest and sincere attempt to enforce the provisions of the Volstead Act. District attorneys did not expect or really ask juries to convict; if perchance the juries recognized the sanctity of their oaths and returned verdicts of guilty, when the evidence led fairly to that conclusion, such district attorneys refused to bring further prosecutions; they left the entire field to the Federal authorities. And the latter, not being dependent upon election by the people but upon appointment from Washington, were far removed from the pressure of local influence and in some instances failed entirely to manifest an honest desire to enforce the law. Persons engaged in the liquor racket were organized, by money, by physical domination, by the expedient of putting competitors on the spot and otherwise, into bands of criminals, popularly called bootleggers. The chief racketeers carried on guerilla warfare against each other for monopolistic control of cities, counties and states. Many are the unsolved murders of that time—many of which are unsolved because the law enforcing officers made no attempt to solve them. "Another rat taken for a ride," was the comment and our newspapers and the public, although evincing an interest in the lurid details of the "wiping out," showed scarcely more concern in the apprehension of the murderers than if the victim had in reality been a rodent. The whole affair was soon forgotten.

There have been instances when prosecuting officers have unquestionably been in the pay of the law-breakers. But this I consider exceptional. The liaison has its foundation more often in the local political situation—as was the case in Denver somewhat over a decade ago. The gang has the ear of the boss, and the prosecuting officers and police deem it wise for their own security of place to ignore the acts of the friends of the boss. Or it may be that

there is no actual boss. In that case the leader of the racket makes it his business to obtain the friendship of the prosecuting attorney or mayor or chief of police. The leader will make contributions to the campaign fund of every candidate for the nomination or election as district attorney whom he believes to have a chance to be elected. Of course, neither he nor the candidate will handle the money themselves; that is done by a lieutenant. But both the racketeer and the candidate know of it and after election inaction against his particular form of enterprise is demanded as the price of the contribution. The result may be a town wide open in every sense or it may be that only particular rackets—numbers, horse-racing, gambling, white slave traffic, the con games—are tolerated.

There has been yet another class of prosecuting and police officers who accepted neither graft outright nor political contributions. These have been the officers who have made treaties with known lawbreakers of all types and permitted them to remain unmolested upon the condition either that the criminal will not operate in their community, no matter what he may do in other cities or states, or that the criminal will be discreet and moderate in his game. Those who have followed the work of the G-men will know how they have gone into some of those cities of refuge and taken men who had elsewhere been guilty of high offenses.

It has been truly said that a community has as much crime as it deserves to have. The citizens of each community have, of course, a right to expect that their public officials will respect and perform their oaths of office; but it has been the shame of America that too many officials have not done so. And in general we have gossiped about this awful condition—but have done nothing. The ordinary citizen who makes a complaint which is shelved with unctuous waving of arms and declamations, usually feels and is helpless. What can he alone do against the entrenched power of office-holder and political boss? Frequently even the newspapers of the community, being in receipt of large revenues from public advertising, decline to enter the lists, at the behest of a plain citizen against the powerful clique which has much guerdon to bestow or to refuse. No, the only effective method—more effective over a term of years than direct political action—is the formation of groups of determined active citizens. So far as my knowledge goes the outstanding achievement of this sort has occurred in

Baltimore. There the Baltimore Criminal Justice Commission, under the leadership of Mr. James M. Hepbron, has done remarkable service over more than a decade. By systematic and detailed study of the work of the police, the district attorney, the probation officers and the court coupled with an impartial, unsparing publicity, this small group has been able to drive lawyers who were truly criminal from the bar, corrupt police from the force, negligent probation officers to other pursuits and to elect an honest, untrammeled district attorney whose only allegiance has been to the law—with the result that the incidence of crime has been practically cut in half. Baltimore is not a safe place for the professional crook. Baltimore is notoriously free of gang crimes.

Many crimes are, I assert, the product of habit in the individual and in the community. The fact that one boy succeeds in purloining without detection a pocket knife or other trinket from a five and ten cent store, may lead him to try to rob the till at the corner grocery store and may also induce other lads of his neighborhood to imitate his act. So the pernicious influence of the initial offense may spread in an ever widening circle. The original culprit passes on to more daring and more dangerous deeds; the influence of his acts induces others to begin anti-social conduct and in turn to progress to higher offenses.

Clearly, therefore, not because of the deterrent effect of punishment, but because of the deterrent effect of eradicating the successes that lead to the formation of criminal habits, each violation of law should be followed by quick apprehension and trial.

In every populous community there exist, either constantly or from time to time, what we may call centers of criminal infection. In general they are places where the idle congregate without wholesome leadership in activity. It is there that the vicious or the chap that has "gotten away" with some assault upon the property of others, suggests to his fellows who are, because idle and bored, hungry for some excitement, some escapade, grave or not. From such a beginning a new criminal gang may originate. Clearly, therefore, it should be a prime duty on the part of the police of the community to control or to weed out such breeding places of crime.

Today we recognize the value of leisure time activities. The scout troops, the boys' clubs, the supervised playgrounds, the recre-

ation centers and the young people's associations return dividends in cash and character to the communities that support them. There is many a community that would have fewer prison cells occupied if they had had more base-ball diamonds.

If crime be controllable through such expedients as honest administration of the laws, better housing and working conditions and adequate facilities for and supervision of leisure time activities, does it not follow that many crimes necessarily result directly from a lack of such wholesome conditions? Crime results just as much from the absence of social sanitation as disease arises from unclean physical conditions. And the problem of sociology is much the same as that of medicine; if there be a multitude of cases of typhoid fever in a given community, it is of course necessary to treat each of those cases—but it is of greater importance to find and to wipe out the source of the contamination. If there be a number of offenses occurring in a section of a city, we must apprehend and detain the offenders, but we should also search out and destroy the source of social infection from which the offenses emanated. It requires much insight, understanding and perseverance to trace the origin of specific crimes to the conditioning factors that acting in turn upon the being of the offender ultimately blossom into the specific act; but the search for the actual source of the infecting typhoid bacilli that produced a certain case of typhoid fever is scarcely less difficult and has been accomplished.

Let us now turn to the next phase—that of dealing with the offender who has been arrested and convicted. The criminal law decrees that he be punished; for the criminal law is and always has been punitive—that is, penal or based upon the idea of retributive pain. It is in dealing with this fundamental conception that as reasonable men we must find our greatest difficulty. It is true that nature employs pain to warn us of danger to our own physical well-being and as a necessary concomitant of physical injury. But the pain is an incident—an evidence of something. It is not itself desirable or curative in its effects. As physicians, you gentlemen do not employ pain as a form of therapy. No doubt pain results from many accepted therapeutic practices. But in employing these practices you do not seek to produce the pain; it is an unfortunate and undesirable effect of the treatment. So I submit that in dealing with the form of social illness which we

denominate crime, the infliction of pain for pain's sake can never be justified in good logic or morals.

It is perfectly true that the process necessarily utilized by society in holding safe the delinquent and in endeavoring to rehabilitate him, may carry to him the connotation of punishment; for to most of us the enforced loss of personal freedom is a very real form of punishment. But here, as in accepted therapeutic practice, punishment is a subjective and unescapable element of the process. Such a subjective sense of punishment is quite a different thing from punishment actively and intentionally administered for its own sake. It is against the predication by the state of its basic, operating principle in the administration of the criminal law, upon the idea of punishment, that reason rebels. For brutality begets brutality.

And there is a growing body of experience to indicate the greater efficacy of the purely educational and disciplinary process over the conventional penal and repressive program. Groups of intelligently selected convicts, under competent wardens, have frequently responded without failure to the trust imposed in them. There have been instances in which sizeable groups of convicts, guilty of crimes which ran the gamut of the code from fraudulent conversion to murder, have faithfully and strictly complied with the terms and conditions under which they had been accorded a degree of freedom. I have known gangs of long term prisoners to work at a variety of tasks in the open country for periods of several months' duration without guards and without escapes or disorder. In fact, there is many a criminal who on the outside had justly acquired a reputation as a desperado, but who, under a wise and humane warden, has proved himself to be worthy of the latter's trust and confidence.

Yet the basic motivation of the criminal law has been the idea of punishment. From the dawn of civilization throughout the nations until after the American Revolution, with the single exception of the province of Pennsylvania for the short period from 1683 to 1718, this took the form of corporal or capital punishment or exile. Prisons were places merely for the detention of persons charged with crime until their trial in court; sentence of death or of one of the numerous forms of corporal punishment swiftly followed the verdict of guilty. It was the function of the criminal courts to deliver men from prison—not to put them there. In this

state the higher criminal court is still known as the Court of Oyer and Terminer and General Jail Delivery. But as soon as Pennsylvania had succeeded in throwing off the yoke of British sovereignty, we set about to throw off the bloody English criminal code. By 1794 the penalty of death had been abolished for all crimes save wilful and deliberate murder; imprisonment was substituted as the penalty for all other offenses. Within several decades our sister states and the nations of the world followed Pennsylvania's example. Then opened the era of the great penitentiaries—conceived of as institutions for the reform of offenders through punishment, penitence and industry. But the early recognition of the folly of this plan when applied to children led to the establishment of special institutions for juvenile offenders. Somewhat later came the so-called reformatories for youth and for women. The result, however, has been more and more social failures. Mr. Sanford Bates, for eight years the chief of the Federal Bureau of Prisons, conservatively estimates that both in this country and in Europe, from 55 to 60 per cent of the prison population are recidivists. There is no doubt much truth in his claim that not all this failure must be ascribed to the prisons; some of it is due to the social conditions which produced the inmates.

But does not our experience as well as our intelligence tell us that the principle upon which we have approached the problem of dealing with the criminal offender is unsound and evil in its effect? It has not worked. Let us forget vengeance and seek the restoration of the offender. He was a member of society and despite prison walls, is a very real member of society. And when his prison term is over, he will again move and have his being as one of us. What will the situation be then? Will he be a useful and desirable citizen or will he be potentially more dangerous than before his arrest and incarceration? Certainly that is a pertinent inquiry. He must be judged and dealt with on the basis of the safety of society—on the basis of his attitude towards the lives, property, rights of each of us and the institutions which our civilization has brought forth.

With this in mind, let us examine our present practice. Today a court not only declares the legal guilt of the defendant, but must also declare the legal consequence of the act. This latter is based upon the crime—the single act and not upon the man—the sum total of a life time of acts. If the offense be a felony, the court

may consign the defendant to a state prison for a term of years of which the minimum and maximum limits are probably fixed in the sentence. And the minimum sentence at least must be served before he can come forth again, and has little or no relation to the danger or lack of danger to society that he presents in the meantime. The loss of freedom for that period is justified as a consequence of, or punishment for, his crime. The law deals with him impersonally and without specific reference to his individual social or anti-social tendencies. The consequences of this system are recorded in our records of recidivism, violations of parole and increasing prison populations.

The law presupposes no special qualifications in the persons who impose the sentence other than that they be judges. In most jurisdictions one must be a member of the bar before he can become a judge. All the law requires of him as a member of the court is that he follow and apply the law. He must determine the minimum and maximum periods of a defendant's imprisonment within the limits set by the law. But there is no requirement that he should have any special knowledge of criminology or that he know anything of the life in, or process of, a prison. It may well be that he has never practiced in the criminal courts or that he has never been within the walls of a prison. He may have no comprehension of what a prison does to a man. All he truly knows is that the offender is deprived of his freedom for a term which he has fixed. If the expiration of that term have any relationship to the time when the offender is rid of his anti-social habits it must be the result of the merest chance. Judged from the point of view of the safety of society, there is in every large prison a large percentage of prisoners who should be released before their minimum terms expire and, conversely, there is another large percentage who should not be discharged at the complete expiration of their sentence.

Fortunately this fact has already won some recognition in law. For instance, when committing a youth or a woman to a reformatory, for example, to Huntingdon Industrial School or to Muncy Reformatory for Women in this state, the court may not fix the term or duration of the commitment. In theory, at least, the reformatory authorities should hold and train each person committed until that person has satisfied them that he or she has been socially

rehabilitated. Another evidence of the change is the segregation of the delinquent defectives into a separate institution where they may be held as dangerous defectives without reference to the sentence of the court or even to the maximum term specified by the statute as a penalty for their particular offense.

But despite this progress the mass of offenders still enter our prisons and penitentiaries under a definite sentence and leave again at a time which in a large percentage of the cases has been fixed without consideration of the social problem involved.

The determination of guilt is, of course, a legal question; but the determination of the place of commitment, the type of treatment best calculated to insure the social rehabilitation of the offender and the time and conditions of his discharge, is not properly within the domain of a court's function. The courts have neither the traditions nor the facilities for the decision of the latter questions. The prisons are not adjuncts of, or under the control of, the courts. After sentence has been imposed, the offender, now a convict, passes out of the ken of the court into the custody of officers who have had no part in determining his admission or the duration of his stay with them.

Nor is there any substantial improvement in the proposal that the duty of imposing sentence be entrusted to a State Sentencing Board. Undoubtedly one sentencing authority in the place of a hundred would produce more uniformity, but uniformity, if based upon the legal rather than social standard, would be undesirable. For example, assume that A and B, acting separately, have each stolen $100. Their legal guilt is the same but, from the point of view of society, it does not necessarily follow that their sentences should be the same. If A be a married man who has lived with and supported his family and has had a good record of work until faced with involuntary unemployment and has had no prior criminal record and it clearly appears that he had not planned the theft, he should receive a suspended sentence and be placed upon probation. But if B, of the same age as A, is shown to have abandoned his family and to have lived by crime and refused to work whenever he could live otherwise and to have carefully planned his offense, he should receive training in some disciplinary institution for probably the maximum period authorized by law. But whether the duration of commitment be fixed in advance by

the sentence of a court or of a sentencing board, the result is the same; we are attempting to prophesy as to when in the future the particular offender will be rid of his anti-social tendencies. This cannot be successfully done by any judge, court or board.

As psychiatrists, you do not venture to foretell, on the admission to your own hospital of a patient suffering from a form of mental illness which you believe to be curable, the precise date when that patient will be so improved as to warrant his discharge. And yet you will have procured a detailed medical and social history of that patient and, unlike the court you know intimately the facilities of your institution and you can control the routine and treatment of the patient and will yourself see him frequently.

No, the law should adopt and follow the method of your profession. If it be determined that the defendant should be separated from society, he should be sent to a receiving institution for classification and removal to the type of institution best calculated to train him to become a useful and non-dangerous citizen or to separate him permanently from society. If he be reclaimable, his progress should be under the supervision of a properly qualified personnel board, a prominent member of which should be one of your profession. And to such board should be entrusted the final decision of the time and conditions of release. Under such a program we could look forward with more confidence to a substantial decline in the total number of crimes.

DISCUSSION.

DR. WINFRED OVERHOLSER (Boston, Mass.).—We are particularly heartened to hear these words coming from a member of the legal profession, particularly when that person is the presiding justice of a court which has a great deal to do with criminal business. I only wish that Judge Schaeffer were typical of the judges who deal with criminals. When I tell you that Judge Schaeffer was the first judge in Pennsylvania to establish a court clinic and has been president of the State Conference of Social work, you will realize that he is much more socially minded, as I am sure you were impressed as he read his paper, than all too many of the judges who are blithely sentencing men to terms which they presume to be able to fix very definitely.

The idea that Judge Schaeffer has presented to you in his paper is one which has gained ground among the legal profession. The Criminal Law Section of the American Bar Association has given a good deal of thought to this whole question for the past ten years. When Dr. Karl Menninger was chairman of the Committee on the Legal Aspects of Psychiatry, he secured

favorable action by that Section of the American Bar Association, who appointed a committee which has been in action ever since.

A considerable number of articles are being written in legal journals on the desirability of a treatment tribunal which should contain psychiatrists, although not exclusively, and which should pass not only on the question of how long the individual should be confined and treated in an institution, but whether he should be treated in the community by that method which is well recognized in the law of probation.

So it would seem that psychiatry is making some imprint upon legal thinking. The law tends to go slowly, to rely a good deal on precedent, and yet it is making progress, and I am sure that I bespeak the feelings of this group in saying to Judge Schaeffer that we are extremely grateful to him for coming here today and presenting to us these thoughts which give us so much encouragement.

AN EXPERIMENTAL STUDY OF CONCEPT FORMATION IN SCHIZOPHRENIA.*

I. Quantitative Analysis of the Results.

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The Problem.

The presence of certain peculiarities and deviations from the normal in the thought processes of schizophrenic patients is an acknowledged fact: ever since Kraepelin the "disturbance of associations" has been quoted as one of the cardinal symptoms of schizophrenia. Yet no general agreement has been reached in regard to the character of this disturbance and the part it plays in the general structure of the psychosis. The existing theories on this subject may be divided roughly into two groups. The theories belonging to the first group deny that the impairment of thought processes is a specific and primary trait and consider it as a manifestation either of the affective-volitional disorder [1] or of a general change in psychological function.[2] The theories of the second group assume the existence of a specific defect in thinking. There is, however, no unanimity among the authors belonging to the second group in regard to the exact nature of this recognized disturbance. Some simply stress the irrationality, the bizarre peculiarities of schizophrenic thought processes; [3] the genetic approach sees in the disturbance a general regression to a lower level of thinking; [4, 5, 6] the neurologically oriented investigators point out the aspects which bear resemblance to organically determined defects, such as aphasia or agnosia.[7, 8, 9]

Actually, however, these different interpretations are not of necessity mutually exclusive. New thought formations, peculiarities

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specific to schizophrenia may co-exist with defects of a more general kind. One has even to consider the possibility that they might prove, on closer investigation, to represent only different aspects of the same basic disturbance. A closer investigation then is needed; but not until very recently has any been undertaken.[10, 11] The tools for such an approach are now available: the concepts and methods recently evolved by experimental psychology have already proved their usefulness in the field of psychopathology. Only by means of a detailed and diversified psychological investigation based on definite hypotheses and by the integration of the results with the total clinical picture can one hope to arrive at a clearer conception of the schizophrenic disorder or disorders. For certain forms of schizophrenia such an approach has already proved fruitful.[12] That a comprehensive and meaningful picture of a given disorder may be obtained in this way has been best demonstrated, in the case of brain injuries, by Goldstein, who was able to deduce from one basic disturbance the heterogeneous defects found in these patients.[13]

With schizophrenics work along similar lines was begun by the late Russian psychologist Vigotsky. Being interested primarily in the psychology of mental development and especially in the development of the highest intellectual functions, he made an attempt to apply theories and methods of genetic psychology and of the psychology of thinking to the investigation of schizophrenia. As a result of his experiments he concluded that an essential characteristic of the schizophrenic disorder is loss of thinking in concepts and a regression to a more primitive level which he calls "complex thinking."[14] This condition is characterized by the lack of what Gelb and Goldstein[15] have termed the "categorical attitude"—objects are not viewed under some general category, as representative of a certain class of objects, or as bearers of general characteristics, but rather as individuals. When these individual objects form groups on the basis of their similarity, or, to use Goldstein's term, their "coherence," these groups are the concrete "complexes," which may be likened to family groups: each member of the group enters it with all its aspects, without losing its individuality, and different relationships prevail between different members. The positive abstraction of a common characteristic and the ignoring of all others, a condition essential for thinking in concepts, does not

prevail here. It is in the form of complexes that the thinking of children takes place, and Vigotsky is in agreement with a number of other investigators when he maintains that only at puberty, and then by virtue of education, does conceptual thinking set in. From then on a person is able, when thinking, *e. g.*, of tables in general, to disregard all individual characteristics of tables he has seen, and refer not to a concrete group of similar objects, but to any object that will satisfy the requirement laid down in the person's definition of a table. According to Vigotsky, schizophrenics, quite early in the course of the disease, lose this ability and revert to the stage through which they had already passed—that of thinking in complexes. This regression produces a radical change in the whole outlook of the patient, in the picture he has of the world. Irrespective of the origin of the disease, Vigotsky is inclined to consider the loss of conceptual thinking not only as an important but as the basic disturbance in schizophrenia.

One might expect that such a radical change in the character of thinking would immediately lead to striking and conspicuous deviations from normal reasoning and would make any understanding impossible between the patient and the normal person. This, however, is not the case. The complex used by the patient and the concept used by the normal person may be identical in regard to their content; both mean the same object when they speak of the table, and therefore understand each other. The fact that both use the same word in designating the object conceals the difference in the meaning which they give to this word. Since words in the course of their normal development have become carriers of concepts, the schizophrenic, in continuing to use them, seems still to operate with concepts, although actually his conceptual thinking is already impaired. That is why special methods are needed to discover and demonstrate this impairment. These methods must eliminate the possibility of a pseudo-conceptual—actually purely verbal—procedure in solving a task that supposedly requires conceptual thinking. This, Vigotsky found, can be effectively done by giving the subject a task which requires him to form new artificial concepts for which the language contains no adequate designations. At a period when the old concepts supported by words still seem to operate, the formation of new concepts may be already markedly dis-

turbed. Therefore the task of forming new concepts represents an especially fine instrument for detecting the first signs of a regression to the pre-conceptual level. It is primarily with the help of an experimental procedure for testing concept formation that Vigotsky arrived at his conclusions about the thinking of schizophrenics. Later this procedure was supplemented by other experiments designated to bring out the different aspects of the disturbance [16] but the concept formation test proved the most efficient of the methods used.

The purpose of the present study was to check Vigotsky's conclusions by using his own method—the concept formation test—under more strictly controlled conditions. The technique of administering the test was worked out in detail and a quantitative score of the performance was introduced. The experiment was extended to a larger group of schizophrenic patients and their performance compared to that of a group of normal subjects of the same age and educational level.

Since for a complete understanding of Vigotsky's thesis the knowledge of the experiment on which his conclusions are based is essential, we shall briefly describe it in the following paragraph. A more detailed description of the technique, including the exact instructions and a psychological analysis of the test, has been presented elsewhere.[17]

The Method.

The present method of studying the formation of new artificial concepts originated with Ach.[18] It has been considerably modified by the Russian investigator Sakharov [19] and used in this form by Vigotsky.* The present variation has been taken over from Vigotsky with only slight changes. The experimental material consists of 22 wooden blocks varying in color, shape, height and size. There are five different colors, six different shapes, two heights (the tall blocks and the flat blocks) and two sizes of the upper surface (large and small). On the under side of each figure, which is not seen by

* Of other authors who independently of Ach developed similar techniques for investigating the formation of concepts, Hull [20] has studied a few mentally abnormal subjects in this way and found their performance inferior to that of normal persons.

the subject, is written one of the four nonsense words: *lag, bik, mur, cev.* Regardless of color and shape, *lag* is written on all tall large figures, *bik* on all flat large figures, *mur* on the tall small ones, and *cev* on the flat small ones. At the beginning of the experiment all blocks, well mixed as to color and size, are scattered on the table in front of the subject. He is told that four different kinds of blocks are before him, that each kind has a name and that his task is to find and to separate these four kinds. The examiner then turns up one of the blocks, shows and reads its name to the subject and asks him to pick out all blocks which he thinks might belong to the same kind. After the subject has done so, selecting, for instance, all blocks of the same color or all blocks of the same shape as the sample, the examiner turns up one of the wrongly selected blocks, shows that this is a block of a different kind, and encourages the subject to continue trying. After each new attempt another of the wrongly placed blocks is turned up. As the number of the turned blocks increases, the subject, by degrees, obtains a basis for discovering to which characteristics of the blocks the nonsense words refer. He may try to find the difference between the blocks bearing different names or search for the common quality in the blocks bearing the same name. If he succeeds in finding a common factor, the formerly meaningless words are filled with meaning; they come to stand for definite kinds of objects (*e. g., lag* for large tall blocks, *bik* for large flat ones) and new concepts for which the language provides no names are thus built up.

As soon as he has formed these concepts the subject is able to complete within a few seconds the original task of separating the four kinds of blocks indicated by the nonsense words. The successful evolving of new concepts thus serves as a means for solving the problem quickly and correctly. The subject who cannot use this tool adequately is considerably handicapped: he will work largely by trial-and-error, not utilizing the help offered by the nonsense words to those who anticipate their potential function as designations of concepts. In other words, he will not look for a common logical principle behind the common designation. In accordance with the conditions of the test, however, such a subject will arrive at the correct solution eventually since in due course all blocks will be turned up by the examiner. Aside, however, from the fact that the subject even then may not be able to discover the

basis of classification and to build the required concepts, the amount of time spent and the number of blocks turned up will bear testimony to his inferior performance. The use of concepts has thus a definite functional value for the performance required by this test. The consequence of this is that we can use the measure of performance as a measure of the person's capacity for conceptual thinking.

It is apparent that in establishing a measure of performance one must take two factors into consideration: the *time* required for the solution and the *amount of help* given, *i. e.*, the number of blocks turned up by the examiner before the solution is reached. Each of these two factors is significant; sometimes the one, sometimes the other better characterizes the subject's behavior in the experiment, depending on whether he takes a more active or a more passive attitude. It was therefore decided to combine both measures by summation into a single score. In doing so each block turned up—except for the first one, given as a sample—was considered as equivalent to five minutes of trial. Thus, to obtain the scores, the number of corrections was multiplied by five and added to the number of minutes spent in arriving at the solution. If, for instance, a subject spent 40 minutes in arriving at the solution and four blocks, not counting the first one, were turned up by the examiner by that time, the score would be: $40+(5\times4)=60$. The same score of 60 would be obtained by a subject who spent only 20 minutes in trying, but had eight blocks turned for him by the examiner. On the other hand, a subject who arrived at the solution in 15 minutes with three corrections would get a score of 30. The better the performance, the lower the score.

The quantitative score thus obtained is by no means the only pertinent datum that the experiment yields. In fact, it is the least important one. The value of the test lies, in the first place, in the possibility of a very detailed qualitative analysis of the procedure of the subject, in which he is comparatively free in spite of the very definite task. The setting actually makes it possible to observe the processes which lead to concept formation. The subject's manipulations of the blocks reflect nearly every step in his reasoning, and in his formation and rejection of hypotheses. At the same time his comments add to the information. The whole course of the experiment—interpretation of the task, the character of the grouping,

handling of the sample, response to correction, finding of the solution—provides a large body of data which may serve as indicators of the degree of conceptual thinking. It was through qualitative analysis of the performance of schizophrenics that Vigotsky's conclusions were gained. In the present article, however, the discussion will be limited to the quantitative results which, according to our analysis of the test, should indicate the presence or absence of an impairment in conceptual thinking. A detailed description of the kind and degree of this impairment as it is revealed by the qualitative analysis of the records will be given in the second part of this study.

The Subjects.

The main results of the study were obtained from a group of 50 schizophrenics, all patients of a state hospital and evenly divided as to sex. The only criteria for selecting the subjects were general agreement as to the diagnosis of schizophrenia and the patient's general willingness and ability to follow simple directions. The results obtained with patients whose attention and effort were judged inferior, and with those who appeared emotionally disturbed during the experiment, were not considered significant and were not evaluated. This selection automatically excluded from the experimental group the acutely disturbed and the extremely deteriorated patients. Distribution with respect to age was approximately the same for both sexes, one-half of the patients being in the age group 30-40, one-fourth being under 30, and one-fourth over 40 years of age. Duration of disease was less than five years in two-thirds of the cases (in 12 men and 21 women). Specific diagnosis as regards the sub-groups of schizophrenia was available only in some of the cases and is therefore not given here. Two-thirds of the patients (16 men and 18 women) had only grammar school education. The remainder had attended high school for varying periods of time, and a few (three men and two women) had been graduated. The types of occupation ranged from mill worker or farmhand to salesman or clerk, the occupation of the women being housework in nearly half of the cases.

The control group consisted of 45 normal adults, 25 men and 20 women. All the men and the majority of the women were attendants

of the state hospital. This group was well matched with the patients as to age and educational level, two-thirds of the subjects having completed only grammar school and one-third having had some high school education. It was, however, the examiner's impression, corroborated by the opinion of the hospital staff and by the results of mental tests available on some of the subjects, that, in regard to intellectual level, our control group was somewhat below the average of the normal population. The choice of an occupation which is poorly remunerated and requires only limited qualifications might itself be a selective factor operating in this direction. From this standpoint the control group is not ideal. This factor needs to be taken into consideration but does not preclude the possibility of the comparison. Since the low intellectual level of the control group tends to diminish the advantage which the normal subjects may be expected to have over the psychotic ones, any better achievement of the present control group must be considered even more significant.

Another factor which might affect the comparison between the achievement of the normal and the psychotic groups is the difference in the emotional attitude towards the test. Whereas the majority of the schizophrenic patients, even when deeply absorbed in the task, remained calm and sometimes continued trying with an extraordinary perseverance, many normal subjects tended to become upset by repeated failures. The emotional tension thus produced in the normal subjects often had a deleterious effect on the performance and consequently on the score. To correct this source of error it was necessary to eliminate the underlying factors producing the affective reaction. With attendants the emotional response was usually caused by the subject's fear of loss of his position as a result of not passing the test, a fear which, as some preliminary experiments showed, could not be dispelled by any amount of explanation. It was therefore dealt with, and most effectively, by making participation in the experiment a matter of choice, the names of the subjects not even being taken. Under these conditions no signs of apprehension were observed and consequently the emotional attitudes of the two groups may be considered similar.

The Quantitative Results.

Table I summarizes the quantitative experiment. The average scores obtained by the patients are consistently higher than the average scores obtained by the normal subjects. Since the goodness of the performance is the inverse of the score, this result signifies the poorer performance of the patients. The average score of the patients as a whole exceeds that of normal subjects by nearly one-half (3:2); in the men this ratio is lower (4:3), in women higher (5:3). For both sexes, taken separately or merged, the differences between the average scores of patients and normal subjects are statistically significant, the critical ratio exceeding 2.5 for all three pairs of values. The differences, on the other hand, between the average scores of men and women of the same group, while quite pronounced in the group of patients, are not statistically significant. Surveying the distribution of scores one finds a definite amount of overlapping between the patients and the normal subjects. 8 of the 50 patients reach or exceed the average performance of the normal group; 10 of the 45 normal subjects show a performance equal or inferior to the average performance of the patients. However, in eight instances the performance of normal subjects is superior to the highest achievement of the patients, and 19 of the patients perform worse than the poorest of the normals. Summing up, we may say that in spite of overlapping the achievement of the schizophrenic group is markedly inferior to that of the group of normal adults, who were equal to the patients in their

TABLE I.

Comparison of the Test Scores of Schizophrenic and of Normal Subjects.

	N.	Minimum.	Maximum.	Mean and standard error.	Critical ratio.*
Schizophrenic men	25	37	123	80 ± 5.0	2.9
Normal men	25	8	95	59 ± 5.0	
Schizophrenic women ...	25	50	135	95 ± 4.9	4.8
Normal women	20	20	94	61 ± 5.1	
Schizophrenics total	50	37	135	88 ± 3.6	5.4
Normal total	45	8	95	60 ± 3.5	

* Difference of means over its standard error.

age and education and possibly even somewhat inferior in their native intellectual level.*

When the concept-formation test was being tried out on normal subjects of different educational levels, it was found that subjects with college education performed on a level vastly superior to that of subjects with a grammar school education. Taking into consideration both the scores and the character of the performance, we may say that only the persons of superior education seem to reach, as a group, the highest level of conceptual thinking. Their performance is at least as superior to that of the subjects with average education as the performance of this latter group is superior to that of the schizophrenics.

In view of these findings it seemed desirable to check our results by testing a number of patients of the highest available educational level. Since, according to Vigotsky's theory, it is particularly the

TABLE II.

TEST SCORES OF SUBJECTS OF SUPERIOR EDUCATIONAL LEVEL.

	N.	Minimum.	Maximum.	Mean.
Schizophrenics	12	11	126	75
Normal subjects	50	2	65	31

latest stages in the development of thinking that are impaired in schizophrenia, a group which to all appearances had never reached that stage of development is obviously not the one best fitted for the investigation of this impairment. In subjects whom one could assume to have reached the highest level of conceptual thinking previous to their disease, the regression caused by the disease should be especially striking. With this hypothesis in view the test was given to all available schizophrenic patients with college education: 8 men and 4 women, most of them being in the professional group. A control group consisted of 50 normal college graduates (25 men and 25 women), the majority of them graduate students or research workers. Table II gives the average scores obtained by these two groups.

* The results remain essentially the same if, instead of the combined scores, the time required for the solution and the amount of help given are considered separately. This provides a certain check on a possibility that the poorer scores obtained by schizophrenics are due to their slower tempo in manipulating the blocks.

The average scores of patients and of normal subjects differ in this group much more widely than in the group with grammar or high school education. The relationship of scores is 5:2 as compared with 3:2 in the former group. The performance of the patients does not even measure up to that of the normals of lower educational level, although it exceeds the achievement of the patients of that group. The comparison of the average scores, however, is not reliable in this case since the group of patients with superior education is too small and the variation of performance within it wider than in any other group. While two patients of this group reach the average performance of the superior normal group and four more reach the average perfomance of the lower normal group, of the six remaining patients five do not even attain the average performance of patients of lower educational level, being among the very poorest subjects.

Thus the deviation of the patients' performance from that of the normal subjects of the same educational level is especially striking in the group with college education, which is in accordance with our expectations, and makes our results appear more conclusive. The wide scatter of the patients' performance, on the other hand, which is here brought out clearly, owing to the higher level of the better educated group, raises the question of factors underlying this differentiation. Further investigations are required to answer this question.

Conclusions.

A statistical analysis of the quantitative results of the concept formation test has confirmed Vigotsky's thesis according to which conceptual thinking is impaired in schizophrenia. Even the striking variation of the performance with educational level which obtains in the normal group cannot conceal the effect of the impairment caused by the disorder. In the order of good performance, normal subjects with superior education are followed by normal subjects of lower educational level, whereas schizophrenics of high educational level occupy the third, and those of lower educational level the fourth place. Deviations of individual patients from the performance level of the normal subjects matched to them in education are especially striking in the group with superior education,

owing to the higher level of the normal performance of that group and consequently the wider range of possible variation. In the group with grammar school education the difference between the patients and the normals is probably somewhat attenuated by the low intellectual level of the normal group, but even so it remains sufficiently pronounced to be statistically significant. The overlapping found between the scores of the normal subjects and those of the patients indicates that not every manifestation of preconceptual thinking in a patient can be attributed to schizophrenic regression. In most cases such regression cannot be affirmed without exact knowledge of the patient's previous intellectual level. In the absence of such knowledge only the instances of extremely poor performance, unparalleled in the normal group, represent a basis sufficient to diagnose an impairment of thinking. Superior educational level, however, sets a much narrower margin for a normal performance. Consequently, in the case of patients who are known to have had superior education, a much slighter deviation from the conceptual level of thinking must be considered significant. With these patients the concept formation test may actually prove to be a useful diagnostic tool whereas in the case of patients of lower educational level conclusions from the results of the test must be drawn with great caution.

The limitations in the diagnostic value of the test, however, do not invalidate the general findings and their theoretical significance. The results of the statistical analysis of the test scores indicate that the reduction of conceptual thinking is an integral part of the schizophrenic picture. Since, however, other factors, such as differences in the motor tempo, might influence the scores, these results should be further verified by a detailed qualitative comparison of the performance of patients with that of normal subjects. It remains for this qualitative analysis to describe the kind and to determine the degree of the impairment found in schizophrenics. Furthermore, the wide scatter of the scores obtained by the patients suggests that the impairment of conceptual thinking might be a prominent trait in some cases of schizophrenia, and not in others. If the qualitative analysis of the test results confirms this finding, the next task will be to determine the rôle which the impairment of conceptual thinking plays in the different clini-

cal variations of the schizophrenic disorder. An attempt to solve these problems will be made in the second part of this study which offers an analysis of the qualitative results of the test.*

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DISCUSSION.

DR. EUGEN KAHN (New Haven, Conn.).—I appreciate this paper of Dr. Kasanin and Dr. Hanfmann as they introduce an extremely neat method.

I hesitate to discuss the paper because everything I can say is well known to Dr. Kasanin, and I am sure that if he had had more time he would have said all I will say, possibly with one exception.

I have no opinion as to the scoring and the statistical evaluation of the findings. I have no argument with the doctors' idea about the fact of the impairment of conceptual thinking in schizophrenics.

I doubt—and Dr. Kasanin seemed to imply that he rather doubts, too—whether impairment of conceptual thinking is present in all schizophrenics. I am not sure whether this impairment of conceptual thinking, if it is present, is primary or secondary. Furthermore, I think it is safe to say that this impairment of conceptual thinking is not, and cannot be, a monopoly of schizophrenics as a group, and here, of course, we are up to our old predicament; Are all the patients we describe as schizophrenics really schizophrenics or not?

The test seems to work nicely with schizophrenics when the diagnosis is established beyond a doubt. It may help, at least at the present time, in questionable cases as a diagnostic method, but Dr. Kasanin did not say this.

It is regrettable, but it lies in the nature of the test that you cannot reëxamine the same patient with the same test, for once the patient has taken the test he knows the trick.

DR. PAUL SCHILDER (New York, N. Y.).—I have no experience with this particular test, but I have conducted similar experiments though not in quantitative measure in schizophrenic patients.

When one looks over the results of Dr. Kasanin, one asks the question, Does this schizophrenic in the beginning have no disturbances in the conceptual thinking as it appears in this test, or does the patient in the beginning have conceptual disturbances which do not appear in this test?

I would answer that by saying that this test obviously tests only the progressed schizophrenic and not the beginning schizophrenic. Now, the beginning schizophrenic has also the schizophrenic symptomatology and thinking, and I believe he has also disturbances in conceptual thinking.

But what is characteristic for the schizophrenic is that his thinking is disturbed in problems which are important problems. The investigation of

Dr. Kasanin is an investigation of what the schizophrenic does with unimportant problems, and I think that the specific difference between the organic case and the case that is not organic, the schizophrenic case and the demented case, is that the demented case shows the conceptual disturbance in unimportant and important material alike, whereas the schizophrenic shows in the beginning the conceptual disturbance merely in material which is important from the point of view of the personality.

I think from this point of view that Dr. Kasanin's investigations are very interesting. They show that the primary disturbance in schizophrenia is not reached in experiments with material which is unimportant from the point of view of the personality.

I would furthermore propose a comparatively simple formulation in all problems connected with language and thinking and thinking processes. I would say the following: What we deal with is a disturbance in the relation between the signal and the object which is signalized by the signal.

I believe with Ogden and Korzybski that language is primarily a sign system, and the system of signals. I would like to say that in schizophrenia the signal system does not function in the proper way. The signal has become undifferentiated, and the signal system becomes at first poor in connection with material which has to do with the nucleus of the personality.

It is interesting that from this point of view we come also to a pretty clear formulation about the resemblances between the thinking of the child and the thinking of the primitive and the thinking of the schizophrenic.

The signal function, the word function of the child, is inexact, and has to be worked out in a process of differentiation and action. The same is true about the primitive. The schizophrenic does not want to experiment further. He is satisfied with an inexact signal since his emotional problems are in another direction, or because the inexact signal helps him to remain in the realm of his complexes and his emotional thinking.

I think that in the light of such discussion the real value of Dr. Kasanin's investigations becomes clearer, showing that the schizophrenic in the beginning shows no disturbances in thinking about objects in which he is not emotionally interested.

Dr. Gregory Zilboorg (New York, N. Y.).—Usually when one rises to discuss a paper, it is because one has a clear thought or two on the subject, and I rise because my mind is slightly confused.

Dr. Kasanin's paper is neat and succinct, and presents nothing that is questionable as to conclusion. The thing that confuses me is the correlation of the findings of Vigotsky and others that he followed up *per se* with what we already know about the schizophrenic.

For instance, Bleuler was one of the first to introduce the idea that one of the outstanding characteristics of schizophrenic thinking is conceptual and not specific-realistic, and therefore we ought to ask ourselves in what sense do we use the words "conceptual thinking"? What concept of conceptual thinking do we have?

Apparently, there is a confusion of tongues. One of the outstanding characteristics of the schizophrenic lies in the fact that when he thinks, he thinks not in specific terms of a concrete object, but more or less in a form of pseudo-abstract concept of the subject.

"Is this room very dark?" you ask a schizophrenic. And he would answer, "It is as dark as one would imagine under the circumstances." In other words, the schizophrenic thinks of darkness in a loose and diffuse manner.

Apparently, what we designate as conceptual thinking in the experiment Dr. Kasanin followed is not so much conceptual thinking, but a classificatory rearrangement of various things for the purpose of bringing concrete subjects together under one generic heading.

This is different from the general idea of conceptual thinking as outlined by Bleuler. I should like to see how this is correlated in the mind of Dr. Kasanin.

The last thing that occurred to me was this: After all, one might think of those experiments when you show, as Dr. Schilder pointed out, that there are those things which the schizophrenic is not interested in; they are not important to him. Is not thinking, after all, a derivative of our relations to reality? And is it not necessary in order to have an ability for conceptual thinking in this sense to have a good hold on reality? And are we not to expect in advanced schizophrenics a total lack of libidinous contact with the experiment, a totally unthinking attitude (to use a lay expression), and therefore an absence of correlative abstract of classificatory arrangement of generic concepts?

From this point of view, I would think that the schizophrenic does think conceptually, but refuses in an atmosphere of experimentation in any way to get in touch with reality even if this reality is presented to him in the form of blocks.

I say this not in order to cast aspersions upon the author of the experiment itself, but only in order to stimulate a further correlation of this experiment with the current dynamic concept of schizophrenic thinking and feeling. This is left out in the experiment, and I think is a definite if not regrettable lack.

DR. GEORGE S. SPRAGUE (White Plains, N. Y.).—I think that such material as Dr. Kasanin has presented to us today is fundamental work that has many applications to other investigators' work already published and still before us.

I think especially of the connection with John Piaget's work with children in his development of the notions of increasing complexity of concept understanding by children.

For example, the child who is six cannot yet understand the significance of prepositions and conjunctions, and so cannot develop a level of complexity of thought that approaches more nearly to adulthood.

I think also of the possibility that such work as Dr. Kasanin has presented may give us an insight, when its results are more elaborated, into some of the cases which we have been calling feeblemindedness.

I wonder if perchance some of the cases which seem to have some mental retardation may not prove to be explicable as individuals whose level of ability to form concept understanding is somewhat reduced from the average. A child may be able to understand what "mother" means, and still later may learn to know what "maternity" means, and yet may never be able to form an understanding of the concept of "motherliness."

I think that probably the various individuals among us have a differentiation of degree of complexity of our understanding of the categories.

Such work as this calls attention to the fact that we do not deal, necessarily, with the content of thought, but rather with the machinery of the method of thought; that instead of dealing with a hammer, one may be in an urgent situation dealing with anything with which he can drive a nail into the wall—the heel of a shoe, or even a heavy book.

The concept "hammer" is supplanted by the larger concept which is of more importance.

Are not the schizophrenics doing just this sort of thing? Are they not striking out the essentials of a specific concept formation to get the larger concept which is so important that they have not time to clothe it in the exact concept of a specific means?

We see this in the case of delirium. He looks at the picture on the wall and sees only the gross outlines, but cannot tie down to the specific detail. We see this in dream formation where the symbol in a dream is stated as to its gross category, but is not specifically limited as to an individual concept.

I think that later we will be able to carry such work as Dr. Kasanin's into a vast amount of specific enlargement of meaning.

DR. JACOB KASANIN.—I am grateful to the distinguished gentlemen discussing this paper, showing some appreciation of the kind of work we are doing.

In reference to the remarks of Dr. Kahn I should say he is about five years ahead of us in what they have done through not only the differentiation between our type of results but the results in organic cases, and that is what we hope to work to. That is important.

As to the validity of our statistical conclusions, I shall not speak because I know they are only relatively important. I grant that much.

In regard to Dr. Schilder's remarks, I think they are valid, but to put the existence of the defect or the difficulty in a definite plane does not solve the problem. What is the difference whether it is of important material that the schizophrenic thinks or unimportant? Let us suppose it is unimportant. What of it? We want to find out what he actually thinks.

The test shows the artistic creativeness of the schizophrenic's thought. He begins to play with blocks, and we have a situation where he is able to play without the dictation of a teacher. He picks out the blue blocks and the yellow and the pink, and groups them all together. And if you ask him why he does that, he will say, "Because this is you and this is daddy and this is a soldier," yet they are all the same.

That is what the experiment is able to do; we can judge the quality of his ideation.

As far as the remarks of Dr. Zilboorg are concerned, they are pertinent and he has an understanding of our difficulties and problems.

The correlation between the emotional status of the patient and specific intellectual problems was not made although we have clinical observations. Perhaps later we may be able to make this definite correlation.

STUDY OF THE AUDITORY APPARATUS IN PATIENTS EXPERIENCING AUDITORY HALLUCINATIONS.*

By ELVIN V. SEMRAD, M. D., Boston, Mass.

Patients experiencing auditory hallucinations have been known to have disorders of the auditory apparatus. The purpose of this study is to determine the incidence, nature and possible significance of these disturbances. One hundred cases were studied. The clinical material was unselected except for the requirements that the patient had either experienced auditory hallucinations in the recent past or was experiencing them at the time of the examination and was sufficiently cooperative to allow satisfactory clinical and audiometer examinations. The series included 62 males and 38 females ranging in age from 14 to 58 years, classified clinically as follows: alcoholic psychosis, 38 cases; schizophrenia, 38 cases; undiagnosed psychosis, 9 cases; manic-depressive psychosis, 6 cases; psychosis with convulsive disorders, 2 cases; psychosis due to drugs, 2 cases; psychosis with myxœdema, 1 case; psychosis with cerebral arteriosclerosis, 2 cases; and mental deficiency, 2 cases.

A careful study of the auditory apparatus was made by a detailed review of the history, symptoms, otoscopic examination, cochlear examination (watch, whispered voice, spoken voice, Weber, Rinne, Galton whistle and tuning fork tests), nose and throat examination, and audiometer examination (Western Electric No. 2 type audiometer, 64 to 8192 D. V.). Many cases had X-ray studies of the skull, sinuses, mastoids and petrous apices. Laboratory studies included urinalysis, complete blood counts and Wassermann tests. Some of the cases had spinal fluid studies.

The hallucinations were reviewed from the standpoint of the previous history of hallucinations, their content, duration and sensory vividness, the setting in which they occurred, the reaction of the patient to the hallucinations, and the relation to hallucinations in other spheres. No effort is made in this study to elaborate, verify, prove or disprove theoretical considerations relevant to the subject of audition and auditory hallucination.

* From the Boston Psychopathic Hospital.

Thirty-one patients were found to have an impairment of hearing. Nineteen suffered a toxic type of deafness, 10 a catarrhal type, and 2 a nerve type. (See Table I.) Of the 19 cases suffering a toxic type of deafness 14 occurred in the alcoholic psychoses, 3 in the schizophrenic group, 1 in the drug psychosis group, and 1 in the undiagnosed group. Of the 3 cases in the schizophrenic group 1 gave a history of excessive alcoholism, 1 a history of a toxic delirium associated with septic infection of the throat, in 1 case no history of a toxic process could be elicited. The case in the undiagnosed group gave a history of excessive alcoholism. Thus a toxic factor was known in 18 of the 19 cases suffering from a toxic type of deafness.

TABLE I.

Clinical diagnosis.	No. of cases. Toxic deafness.	Catarrhal deafness.	Nerve deafness.	No deafness.
Alcoholic psychosis	14	4	1	19
Schizophrenia	3 *	3	0	32
Drug psychosis	1	0	1	0
Psychosis with cerebral arteriosclerosis	0	1	0	1
Psychosis with convulsive disorders	0	1	0	1
Psychosis with myxœdema	0	0	0	1
Undiagnosed psychosis	1 †	1	0	7
Manic-depressive psychosis	0	0	0	6
Mental deficiency	0	0	0	2
Total	19	10	2	69

* One case had a history of excessive alcoholism, another a history of toxic delirium associated with a septic infection of the throat.
† History of excessive alcoholism.

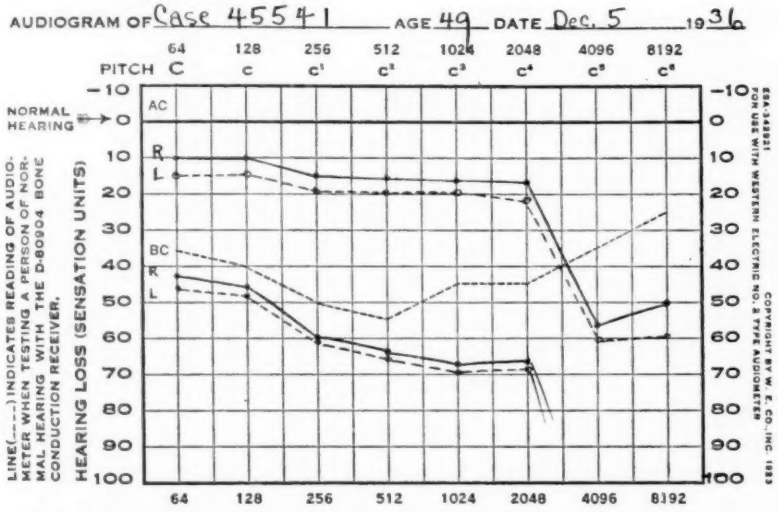
Clinically the patients in the toxic group did not complain of subjective deafness nor had otologic symptoms in the majority of cases; however, the audiogram curve showed a loss of perception for high tones, often showing the greatest "dip" at 4096 d. v., and a slight shortening of the bone conduction time; the average case showed very little loss for hearing of spoken voice so that in the majority of cases there was very little loss of useful hearing. Cisco [4] in his observations on the hearing of over a thousand cases states that the 4096 d. v. "dip" is one of the first signs of a degenerative process which may result in the loss of acuity for all high tones. The otologic lesion is probably in the spiral ganglion cells of the cochlea. Other possibilities are that toxic deafness may be explained

by a toxic lesion of a small area of the organ of Corti or by a specific neuritis of nerve fibers correlated with the perception of these tones.[3]

A typical case of toxic deafness is as follows:

N. R. (45541), male, white, English, aged 49, was brought to the hospital suffering from a typical attack of delirium tremens. He began to use alcohol at 18, drank before breakfast for the past two years, and ate very poorly during this time. He had a similar attack two years previously. For a period of at least six weeks prior to admission he was consuming at least a quart of whiskey a week and three to four quarts of beer a day. The patient's mother was deaf at seventy. The patient suffered infrequent colds, scarlet fever and measles in childhood without complications, and had no subjective complaints of deafness.

His audiogram was as follows:



Clinical examination was as follows:

Left.	Test.	Right.
10/25	Whisper	15/25
18/35	Conversation	18/35
.5	Galton whistle	.5
64	Lower limit	64
35/13	Rinne	35/12
±	Weber	±
Negative	Otoscopic	Negative

X-ray studies of sinuses, mastoids, petrous apices and skull negative.
Wassermann negative.
Spinal fluid was not examined.
Urinalysis and blood count normal.

The cases of catarrhal deafness and nerve deafness showed the usual clinical findings characteristic of these types. With regard to the frequency of the catarrhal and nerve types of deafness we cannot say that it is more than one would expect to find in a random sampling of the population and therefore they probably have very little significance in our study. However, we have no reason to assume that 19 individuals out of 100 picked at random would show a toxic deafness. That 17 of these cases gave a history of excessive alcoholism is not without interest. A slight drop in the high tones of some of the non-deaf cases of alcoholic psychosis was noted on audiometer studies; however, it was not sufficient to consider the hearing impaired.

The auditory hallucinations occurring in this group of cases suffering from a toxic type of deafness were essentially of the same nature as those seen in the alcoholic psychosis without deafness. They were of an impersonal nature, showing disturbance of special function rather than a general psychological adaptive value and seemed to borrow very little of their structure and quality from the deep seated complex preoccupations of the patient; they dealt largely with the matter of fact experiences and interests of the patient. Their sensory vividness was very marked, experienced usually in both ears. The auditory hallucinations occurring in the setting of a delirium were often closely related to the visual hallucinations. The visual objects would often speak to the patient. An observation of interest is that some of these patients who had both visual and auditory hallucinations, when asked (after recovery) to imagine hearing the specific experiences, would have to recall the visual image before they were able to recall the auditory experience. The period of hallucinosis was of short duration (a few days) and usually subsided on removal of the toxic factors. Some patients showed fear and had sought the protection of the police. Many would answer the "voices" and carry on conversations with them, look around to reply to them, or try to see where they were coming from, some attempted suicide to escape from them; thus, with normal initiative and energy the patient would react to the subjective experience as if it were an objective event. One patient heard himself being accused of sex perversions and murder and thought the police were after him; he felt that as long as he was to be electrocuted he might as well commit suicide. When the toxic

process subsided the patient realized these experiences as subjective and due to exogenous factors. Cases that have had several episodes of hallucinosis may with the first be very fearful but later even if they feel fearful will "bluff their way and not show it outwardly." In a few the element of fear is absent and the patient very thoroughly enjoys his experiences. Usually the "voices" make sexual accusations, call the patient bad names, threaten or say uncomplimentary things. It is not unusual for the "voice" to deal with matter of fact data thoroughly enjoyed by the patient. One case heard tavern songs very vividly. Five cases experience simply types of sensory experience such as tinnitus. One patient heard the buzzing of motors in his ear associated with feelings of electricity running through his body. Another had heard buzzing for two years, more recently voices associated with the buzzing.

Some of our cases experienced hallucinations only in one ear. One case suffering from a bilateral type of toxic deafness, with about equal impairment on the two sides, heard auditory hallucinations only in the left ear. He explained: "I was lying on my right ear so I did not hear them with the right ear." Another case of bilateral toxic deafness, with about equal involvement on the two sides, who subjectively complained of loss of hearing on the left, heard voices only on that side; he explained that this was the ear closest to where his imaginary friend was. Another case suffering from nerve deafness on the left side complained of "roaring" on that side; on the right with less involvement of the toxic type he heard the "voices." Another case suffering from toxic deafness on the left had no symptoms on that side, but on the right side, with nerve deafness after injury, he heard "voices" swearing at him. Another case, showing no evidence of deafness by our examination, during his alcoholic delirium had "buzzing" in the right ear and heard accusatory voices on that side. On physical examination he had a mild injection of the pharyngeal mucous membranes, the right tonsil was much larger than the left and purulent material could be expressed from it, the nasal mucous membranes were injected and there was slight obstruction of the nares on the right. Both auditory meatuses were blocked with cerumen. Another case showing no evidence of deafness by our examination heard loud accusatory voices only on the right during her alcoholic hallucinosis. For one week before her attack she had "buzzing" in both

ears. On examination there was a mild retraction of both ear drums, a large infected tonsil remnant on the right and X-rays showed questionable clouding of the ethmoid cells.

We may mention here that none of our cases showed a threshold of hearing below that considered normal on audiometer examination, thus indicating no evidence of auditory hyperæsthesia.

The action of the hallucinations on the audiogram is of interest. In our series no audiogram was considered satisfactory if there were unusual slowness of response or evidence of external distraction. Often during an auditory hallucination the threshold of hearing could be reached and surpassed without the patient going on with the response. Likewise if a tone were discontinued during a hallucination the patient would fail to record the cessation of the tone, but after the hallucination he would again respond properly to the stimulus and follow it to the threshold. It was occasionally observed that a certain frequency would seem to start a train of thought as indicated by the patient or by objective evidence such as laughing, etc. There seemed to be no correlation between pitch of tone and reference to voices as male or female.

In 47 cases no toxic factors were known and the auditory apparatus as far as we could determine from our examination was intact. This group included 32 cases of schizophrenia, 7 cases of undiagnosed psychosis, 6 cases of manic-depressive psychosis, and 2 cases of mental deficiency. In general the hallucinatory experiences differed markedly from those described in the toxic group. They were individual experiences described as "whispers," "voices in the atmosphere," "mumblings," "inner voices," "possible voices," "thoughts," "voices in the mind," "sounds like muffled microphones," "sounds from a distance," "voices in the body," and "natural voices." With such a large number of experiences of individual nature with no known toxic factors, with no disturbances of the auditory apparatus as far as could be determined by our studies, we were led to consider other variables. The individual experiences of this group both in their structure and quality seemed to be related more to the personality difficulties and preoccupations of the patients, emphasizing their instinctual needs, their wishes, ruminations, codes of value, etc. The patient often found himself handicapped by inadequate word facilities to describe his experience and in formulating it would oscillate between having heard a

"voice" and having had a "thought" and many times the patient realized that it was a new experience *"sui generis"* for which he had no adequate vocabulary. A spontaneous description from the patient of his experience is more accurate than a response to the familiar question "Do you hear voices?" which colors the description of the actual experience.

The variations in sensory vividness of the individual experience are of interest. One is impressed with the special types and degrees of sensory quality. For convenience two main groups may be distinguished: (A) Cases who give their experience specific sensory quality; (B) Cases who give their experience very little or no sensory quality.

In group A the experience of the patient is not recognized as of subjective origin but has the quality of a perception. One patient heard "voices" like natural voices in both ears, another heard his stepfather's voice whom he feared very much, another heard very distinctly the voice of a man who had died. That the experience has sensory vividness and the words significance to the patient is shown by the patient's behavior. One case very much disturbed over religious beliefs was "told to move the crucifix from the wall," which she did. Another attacked a bystander because of sinister remarks he alleged were made about him. Some cases had experiences with sensory vividness, which, although the patient referred to as auditory perceptions, were not experienced in the ears. An illustration of the difficulty in determining the sensory or perceptual nature of an experience is afforded by the following remarks: "People are bothering me; in a low voice they speak in uncomplimentary terms (sexual connotation) . . . . they are not thoughts . . . . I feel them all around me in the atmosphere. . . . . I do not hear them in my ears." She becomes very angry at them and talks to them and answers individual accusations. She spontaneously and emphatically remarks "It is not my imagination, I know it is not, my father says it is but it is not." Another patient heard the music of the spheres as they whirled around, "a distant tune played by an oboe and a violin. . . . . I never heard it vividly . . . . it did not seem to be in the ears at all but in my head." In response she lay in bed quietly, feeling that she was getting ready for a metaphysical experience. Another patient for several years has been hearing her physician and priest talk to her . . . . "they

talk inside of me . . . . they are talking through my head . . . . the voice comes through the air and tells about life . . . . it is the voice of sex." The experiences began by "voices talking in her head." She denies it is a thought. "It is a voice."

In group B the patients attribute to their experiences very little sensory vividness and the experience lacks the qualities of a perception; they speak of inner voices, thoughts, etc. One case hesitated in describing her experiences and finally said: "It was my own thought," however, the "noises in the head" frightened her because they told her to commit suicide. Some patients talk of the "voice of conscience," "imaginations," "my own thoughts running through my head," etc.

So far we have seen that from a descriptive standpoint the patients' experiences are definitely individual varying greatly in type and degree and that they are difficult to resolve into simple dynamic components. A careful study of the content is of great significance. The limits of this paper do not permit detailed discussion. A few factors of significance will be pointed out. Often the content is very definitely related to matters of preoccupation. The following patient had indulged in overt homosexual practices with great feelings of guilt. In his psychosis "voices" continually made uncomplimentary remarks dealing with this topic. At times he felt that his own conscience was responsible for the experience, at times he felt the remarks came from without. He was very much distressed, felt that he had committed a great sin, and that he might just as well be dead. Another patient whose "voices" dealt with ruminations over the past explained them by saying: "It is because something in the past bothers me." Another patient extremely perplexed about the consequences of autoerotism had experiences which said, "Pull, pull"; this meant that he should indulge in autoerotic practices.

The relation of content, preoccupations and emotion is illustrated in a boy who became depressed and unhappy at a C. C. C. camp and had auditory experiences "which expressed certain definite ideas . . . . you did not treat your father and mother right you are a loafer, you did not do right and this is the result, you are not going to get well and you are being punished for it." Auditory experiences occurring in the setting of an affective disorder not infrequently are in line with the patient's feeling tone. A manic

patient was encouraged and his activities were sanctioned by a friend very dear to the patient who had long departed. Another said "I hear things that make me feel good." A depressed patient heard voices that talked in a depreciatory way telling the patient he was no good, useless and unfriendly.

The content sometimes expresses the inner needs of an individual. A 26-year-old female clerk became very fond of a male fellow employee. She never talked to him. For several months before admission when she would be alone she would hear his voice "telling her to fall in love with him." "He would tell me to go out and take a walk if it were a nice day." She said the voice was real. As she improved she formulated the experience as: "It must have been my imagination, I worked myself up to it . . . . but really I believed he loved me."

In our series we had only two non-psychotic cases. A 14-year-old moron became unhappy over environmental difficulties and in this setting as she walked through the park heard the birds talk to her. It was her dead mother's voice asking her how her father felt, how the patient felt, and whether she went to school. The experience had sensory vividness, the "voice" was heard in both ears and recognized as a "different" experience. The other patient, aged 37, male, mentally deficient, would during the Christmas holidays hear his dead mother talk to him in a very clear voice. The patient stated: "The voice and the vibration were there coming in through my ears."

That hallucinations occur in normal life is known. What individual idiosyncrasy allows hallucinatory experience and under what circumstances does it occur? In conditions of confusion or of emotional tension or toxic involvement there may come to the surface these idiosyncrasies of endowment with sensory imagery which under normal conditions are not expressed or recognized. Much work has been done on eidetic imagery. Is it possible that some individuals are endowed with an auditory imagery which predisposes them to auditory hallucinations? Some observations on the auditory function are of interest in this relation. A patient, aged 26 (schizophrenic), had been hearing "voices like natural voices" which she believed were "in her head." She also had vivid visual experiences. When she was asked to imagine the noise of a siren

she replied "I can think of how it ought to sound but I cannot hear it." The accompanying visual image would last much longer than the auditory experience. She admitted ability to imagine pictures in detail. In her dreams she heard vividly. In her day-dreams she heard vividly. Another patient, aged 22 (schizophrenic), heard "voices of movie stars quarreling" and calling her names saying also that she would be killed. Her visual hallucinations consisted of seeing things which she had seen on the screen. When asked to imagine someone talking she imagined very distinctly her sister talking but did not have a visual image of her. In her dreams she heard very vividly. Another patient, aged 14, who heard her mother speak to her very vividly and had no visual hallucinations, would call up auditory images without a visual accompaniment. In her dreams she heard vividly. These cases indicate a variability in endowment, in virtue of which some individuals have auditory experiences much more freely than others.

SUMMARY.

1. The experiences termed auditory hallucinations are individual experiences, which require to be resolved into many factors.

2. To investigate auditory hallucinations more precisely audiometer examinations of 100 cases with auditory hallucinations were made.

3. Of these 100 cases there were 31 cases of deafness, 19 toxic deafness, 10 catarrhal deafness, and 2 nerve deafness.

4. Of the 19 cases of toxic deafness, 18 patients gave a history of a definite toxic factor, 16 alcoholism, 1 drug addiction, 1 toxemia with a septic infection of the throat.

5. No evidence of auditory hyperæsthesia was noted.

6. It was noted that the occurrence of an auditory hallucination during the audiometer examination interfered with the response of the patient.

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RELATION BETWEEN PRECIPITATING SITUATION AND OUTCOME IN MANIC-DEPRESSIVE PSYCHOSIS.*

By ROBERT C. HUNT, M. D., Rochester, N. Y.

In a previous communication [1] a small group of cases of schizo-affective psychosis showed a high degree of correlation between relief of the precipitating situation and favorable outcome. This finding served as the principal point of departure for the present study. Another motive for this study, however, was the writer's confusion about the importance of external, environmental factors in the causation of and recovery from manic-depressive psychosis.

The importance of hereditary, constitutional factors in the genesis of this disorder has been amply and repeatedly demonstrated by many workers. The general feeling about the etiology seems to be about that expressed by Rosanoff [2]: "The bulk of the cases occur on an hereditary basis either under ordinary conditions of life or under the influence of external factors which are, for the most part, of psychogenic nature." Brew,[3] Travis,[4] Pollack,[5] and others have made studies of the types of environmental stress and precipitating factors to which manic-depressive patients have been subjected. Little attempt appears to have been made, however, to correlate these situations and their outcome, with the outcome of the psychoses. The practical question which has always worried the writer is this; since manic-depressive psychosis is so largely conditioned by hereditary, constitutional factors, can the course of the psychosis be influenced by therapy aimed at relieving environmental stress?

The material for this study was made up of the case records of 105 patients selected from the 165 consecutive manic-depressive first admissions to the Rochester State Hospital during the years 1927 to 1931 inclusive. The 60 cases excluded from this study comprised those about whose diagnosis there was substantial disagreement at the time of initial study, a small number who died

* Read at the ninety-third annual meeting of The American Psychiatric Association, Pittsburgh, Pa., May 10-14, 1937.

shortly after admission, and those who, while still psychotic, were discharged and lost track of shortly after admission. All other cases were included, regardless of the writer's feelings about the diagnosis.

These 105 cases were first classified according to the seriousness of the precipitating situation. The criteria for classification were rigorous: a situation was considered serious only if, in the writer's opinion, it constituted a major frustration or disappointment, or a genuine threat to or attack upon the fundamental bases of the patient's security. Thus classified, 38, or 36 per cent of the cases, were found to have what was considered a serious precipitating situation, and in 67 it was not considered serious. This is somewhat at variance with the findings of Brew,[3] who reported a well defined precipitating situation in all but two of 25 cases of manic-depressive psychosis.

The group with serious precipitating situations was then divided into two sub-groups: in 15 cases the serious situations were relieved while the psychoses were in progress, and in 23 cases the situations were not relieved.

The next and major portion of this study was the determination of what happened to the patients in these three groups.

In group I, made up of 67 cases in which there was no serious precipitating situation, 49, or 73 per cent, recovered, in an average time of 9.8 months from the time of onset. Ten cases, or 15 per cent, are still in the hospital, having been continuously psychotic an average of 81 months at the time of writing. One patient died in the hospital after being psychotic 70 months. Seven patients, or 10 per cent, were discharged and lost track of before recovery, the psychoses having lasted an average of 23 months at the time of discharge. (The date of recovery, as used in this study, was chosen by the writer from descriptions in the record, and was not the officially recorded date of recovery. This was necessitated by the fact that in our records a patient is seldom officially labeled as recovered until the expiration of a year's parole period, although there has often been actual recovery many months before.)

A fairly typical example of a psychotic attack without serious precipitating situation is the following:

G. W., a 37-year-old single practical nurse, was admitted to the State Hospital on June 28, 1930, in a typical manic excitement. There was a

family history of insanity, and the patient, always somewhat overactive, had had a two-weeks' manic attack 13 years before. Her present attack came on acutely four days before admission. The only apparent precipitating factor was the fact that she had been working rather hard nursing a case of pneumonia. She began to quiet down two months after admission, appeared normal in November, 1930, was paroled November 15, remained entirely well during the one-year parole period, and has not been heard from since.

In group II, made up of 15 cases in which there was relief of a serious precipitating situation, all patients recovered, after an average duration of 9.4 months. A typical example of this group is the following:

F. N., a 45-year-old widower, of good heredity and sound personality, was admitted to the State Hospital February 3, 1930. His wife and two brothers had died of tuberculosis several years before. Three years before his only child had contracted tuberculosis and had been sent to a sanatorium. A few months before admission, to the great joy of the patient, his son was discharged as recovered and came home to live with the patient. Right after this, however, the patient lost his job, could find no other, and had reason to be greatly worried about his financial security. He became depressed, attempted suicide, and was committed in a retarded depression. Immediately after admission the son went to live with an aunt, and this aunt promised to give the patient a home until he could find work. He recovered within a month following admission, was paroled in April, promptly got a job, got along well during the ensuing year, and has not been heard from since.

In the foregoing case recovery followed rather promptly upon relief of the precipitating situation. This was not always the case, however. In 8 of the 15 cases in this group the psychosis continued to run it course, although the situation had been relieved. The following is a case in point:

S. M., a married man of 54, was admitted to the State Hospital June 20, 1928, in a retarded depression. One brother had a suicidal depression with recovery. The patient himself was a quiet, inoffensive, but rather successful man. During the year prior to admission the patient was caring for his psychotic brother in his own home. Five months before admission the patient lost his job, and was afraid that he would lose his home. He went into a depression at that time. Shortly before admission the brother recovered from his psychosis, returned to work, and contributed to the support of our patient's family. The patient, however, did not recover until August, two

months after admission. He was paroled September 1, quickly reestablished himself economically, and got along well.

Another curious feature of the precipitating situation is that, once it has precipitated a psychosis, and the patient has then recovered, the situation seems in some cases to lose its power to upset the patient. Three of the patients in this group were exposed to a recurrence of the precipitating situation following recovery. Only one of the three became psychotic again, and she recovered nicely from the second attack, and subsequently stood up well under another crisis in the same difficult situation.

In group III, made up of 23 cases in which there was no relief of a serious precipitating situation, 17, or 74 per cent, recovered, after an average duration of 18.8 months. Two patients in this group are still in the hospital, having been continuously psychotic an average of 88 months at the time of writing. Three patients were discharged and lost track of before recovery, the psychoses having lasted an average of 40 months at the time of discharge. The other patient in this group escaped and committed suicide after 13 months of psychosis. An example of the characteristic delayed recovery in this group is the following:

C. S., an Italian married woman of 29, was admitted December 14, 1928. She was a girl of happy, sociable disposition, with a negative family history. She had been married at 15, and the marriage had been very congenial. The patient had longed for children, but had achieved nothing but two miscarriages. Eight months before admission the patient developed amenorrhea and marked obesity, and was overjoyed to think that she was going to have a baby. She went to a physician to have the good news confirmed, but was told that she was not pregnant, was only too fat, and would probably die if she did not stop eating so much. This precipitated an agitated depression, with ideas that someone was trying to kill her husband. A little later she became overactive, and elated, and was committed in a manic state. She did not improve until October, and recovered in November, 19 months after the onset. She was paroled December 17, 1929, remained well during the ensuing year and has not been heard from since.

To recapitulate briefly the major findings, it was found that of those psychoses which came on more or less spontaneously, 73 per cent recovered in an average of 9.8 months. Of those cases precipitated by a serious situation which was then relieved, 100 per cent recovered in an average of 9.4 months. Of the case in

which a serious situation was not relieved, 74 per cent recovered in an average of 18.8 months. (Table 1.)

TABLE 1.

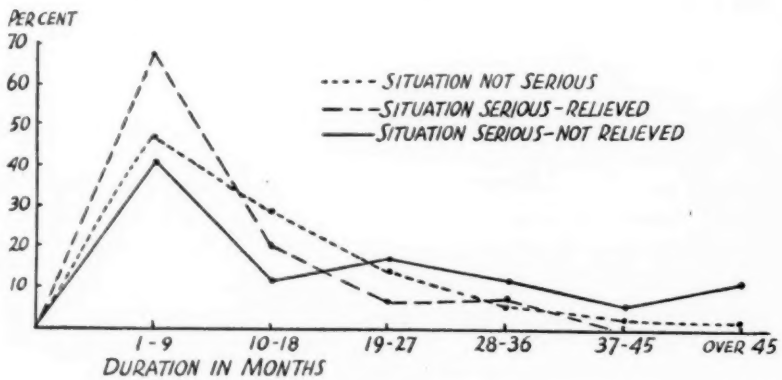
OUTCOME.

Precipitating situation.	No. of cases.	Per cent of total.	No. recovered.	Per cent recovered.	Ave. duration of recovered cases.
Not serious	67	64	49	73	9.8 months.
Serious, relieved	15	14	15	100	9.4 months.
Serious, not relieved..	23	22	17	74	18.8 months.
Totals	105	100	81	77	11.6 months.

The distribution of the durations of the psychoses in the recovered cases is shown in the graph (Table 2).

TABLE 2.

DISTRIBUTION OF DURATIONS.



Statistics on small groups of organisms as infinitely complex and variable as human beings are notoriously unreliable. As might be expected, the three groups of patients were found to differ somewhat with respect to a few other variables which are com-

monly believed to affect the prognosis. (Table 3.) The other variables considered were the average age of onset, the percentage with poor heredity, and the percentage with poor prepsychotic personality. Under poor personality were included patients with unstable or inadequate makeup, and those who had had previous attacks of psychosis, regardless of the personality between attacks.

Group I, with no serious precipitating situation, was found to have the second highest age of onset, and the highest percentage of poor heredity and poor personality. It therefore seems reasonable to infer that the patients in this group had a greater average predisposition to psychosis than the other groups had.

On comparing the two groups with serious precipitating situations, the differences are somewhat more confusing. Those in

TABLE 3.

AGE, HEREDITY, AND PERSONALITY.

Precipitating situation.	Average age.	Per cent poor heredity.	Per cent poor personality.
Not serious	41.0	61.2	73.1
Serious, relieved	35.5	59.0	53.6
Serious, not relieved	42.1	34.7	60.9
Totals	40.5	55.3	67.6

whom the situation was relieved averaged six and a half years younger, had worse heredity and better personalities than those whose situations were not relieved. It seems likely, therefore, that those whose situations were relieved were predisposed to more favorable outcome by factors other than the relief. The influence of these other factors, however, could scarcely account for the great differences in the durations of the psychoses.

SUMMARY.

1. In a series of 105 patients with manic-depressive psychosis, 67 did not have a serious precipitating situation, 15 had a serious situation which was relieved, and 23 had a serious situation which was not relieved.

2. In the group without a serious precipitating situation 73 per cent recovered, with an average duration of 9.8 months.

3. In the group with a serious situation which was relieved all recovered, with an average duration of 9.4 months.

4. Recovery did not always take place at the time of the relief of the situation.

5. In the group with a serious situation which was not relieved 74 per cent recovered, with an average duration of 18.8 months.

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DISCUSSION.

DR. GRACE BAKER (Baltimore, Md.).—In his attempt to break away from the traditional attitude of considering manic-depressive psychoses as due to hereditary factors alone, Dr. Hunt is to be commended.

If we are to achieve and maintain a constructive attitude toward our work, then painstaking and unceasing efforts must be made to obtain the facts, to study and evaluate the factors at work and to determine their modifiability.

Dr. Hunt has reported that the duration of the illness was shortened when the situational factors were not so serious and that there was a high percentage of recoveries when the situation, although serious, could be modified. Such results would certainly justify more attention being given to the factors at work and more energy toward attempts to modify them.

Perhaps a warning should be sounded against the forming of too hasty impressions, that is, impressions founded on insufficient data. Impressions may too readily become facts in our thinking.

I would like to thank Dr. Hunt again for the service he renders in calling attention to the importance of the modifiable factors. This should help us to break away from the pessimistic and rigid thinking of only constitutional factors.

DR. ROBERT C. HUNT (Rochester, N. Y.).—I might add an expression of my own dissatisfaction with this type of work. One always wishes in undertaking a study of this sort that one had a thousand cases, that it were not necessary to discard many in the process of selection; and one is acutely aware of the unsatisfactory nature of statistical studies made on such small groups of infinitely variable and complex organisms. However, we have to work with what we have.

I cut out a great deal that was in the paper. One thing perhaps should be mentioned which throws some further doubt upon the validity of these findings; that is, there are a great many other variables in these patients which have some effect upon the prognosis or upon the outcome, so many variables that if one became very deeply engrossed in them, he would end up in complete confusion. A few of these variables were considered in this study. The principal ones considered were the heredity, the prepsychotic personality and the age of onset, and these groups were small enough that there were some differences between the groups in these respects which threw a little doubt, perhaps, upon the validity of the findings. However, it was felt that the difference in the duration between those who had relief of a serious situation and those who did not, the difference between 9.4 months and 18.8 months, was sufficient to warrant a general feeling that the environmental situation had been of some importance, perhaps not as much as was indicated by those figures.

THE SYMPTOMS AND TREATMENT OF BARBITURATE INTOXICATION AND PSYCHOSIS.*

By FRANK J. CURRAN, M. D., New York City.

Introduction.

The question, still a debatable one, as to whether specific intoxicating substances possess the quality of inducing a specific type of psychotic or mental reaction, is of more than academic interest. This paper embraces a report on the clinical observations made of 50 patients admitted to the Bellevue Psychiatric Hospital who were intoxicated from the barbituric acid preparations alone, and of 25 patients who were intoxicated by these preparations in combination with the bromides. The paper in part is a sequel to a previous one dealing with the subject of bromide intoxication.

Clinical observations indicate that the mental or psychotic picture following intoxication from the bromides alone, from the barbituric acid compounds alone, or a combination of these two toxic substances may possess some more or less specific characteristics. This paper, however, is confined to a consideration of the mental symptoms associated with or following intoxication from the barbituric acid compounds and methods of combating or treating this condition. The significance of this report, however, may be better appreciated by brief reference to the history, physiological and toxic effects, and the dangers associated with the use of the barbituric acid preparations.

History.

Fischer and von Mering [2] discovered the first sedative hypnotic of the barbituric acid series in 1903. This drug, chemically known as diethylbarbituric acid, was given the trade name "Veronal," and subsequently "Barbital." Some of the more common compounds

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of the barbituric acid series now available include some 23 approved by the Council on Pharmacy and Chemistry of the American Medical Association, as listed in their publication, "New and Non-Official Remedies." It is possible, however, theoretically, to create through chemical manipulation approximately 1225 such compounds.

Physiological Effects.

The physiological effects of the barbituric acid compounds are similar in both man and animal. When hypnotic doses are given the gait becomes unsteady and manifestations of somnolence appear. The tendency to drowsiness may be interrupted by short or long periods of purposeless struggling, rage or muscular tremors or rigidity. Respiration is slowed; the heart rate is increased; the blood pressure is either constant or lowered; peristaltic action of the stomach is slowed, and often ceases; and there is usually a fall in body temperature. Bright lights, cold, noise, pain and other stimuli having similar quality, can partially counteract the somnolent effects of the drug. If death occurs it is usually from the respiratory paralysis or vasomotor collapse.

According to Sands [5] the barbituric acid compounds dilate the small blood vessels and capillaries. This in turn tends to slow circulation, reduce oxidation, dissipate heat, and lower body temperature. The slowing of cerebral circulation and reduction in rate of oxygen and carbon dioxide exchange in the cerebral capillaries are reflected in their hypnotic effects.

Fate of Barbiturates in the Body.

The fate of these drugs in the body includes their fixation by body tissues; destruction or degradation; or an unaltered excretion. As a rule those compounds with alkyl radicals are relatively stable, while those with complex cyclic radicals are unstable and easily decomposed. The former are more likely to appear unaltered in the urine; thus, "Barbital" and phenobarbital are eliminated practically unchanged in the urine of normal persons, whereas "Amytal" and "Pentobarbital" are excreted only in traces. Most of the barbituric acid compounds, however, now in use are eliminated largely through the kidney. They may be detected in the urine

for as long as four or five days after ingestion. Urinalysis has, therefore, become the method of choice as a test for detecting the presence of these drugs in the body. Qualitative and quantitative tests of the blood for its presence offer possibilities for greater refinements in its detection.[47]

Toxicity.

The usual toxic dose of "Barbital" is over 50 grains. Many cases have been reported of persons having taken 50 to 125 grains with recovery. Chang and Tainter [9] reported the case of a student who took 270 grains of sodium barbital with suicidal intent. He was in deep coma for six days and recovered. Hoge [10] reported the case of a woman who used three or four tablets of "Amytal" daily for several years and who had only a moderate tachycardia and slight anemia. Polatin [11] gave five to 30 grains of sodium barbital daily over a continuous period of one to 20 months to 80 disturbed patients without producing addiction to the drug. There were a few toxic symptoms, and these were relieved within 24 hours after withdrawal of the drug.

There is evidence to assume that there is no increased tolerance developed when these drugs are administered over a considerable period of time such as is seen, for instance, when opium or its derivatives are so administered. In the latter instance, opium may be taken in increasing quantities, the body developing a tolerance for it. To those accustomed to its use the amounts necessary for producing the maximum physiological effect would under ordinary conditions produce death. No such tolerance appears to develop through the use of the barbituric acid compounds. Instead, because of its slow elimination and degradation within the body, or its fixation within the tissues, the effects of the drug tend to be cumulative.

Moreover, a discontinuance of the use of the barbituric acid compounds in those accustomed to their use does not give rise to a series of symptoms indicative of the body having developed a physiological dependence on the drug. Opium or its derivatives, however, develop a physical or physiological dependence within the body, and when such drugs are withdrawn from those habituated to their use it gives rise to a definite train of physiologic

symptoms indicative of a physiological or physical dependence. This tolerance, physiological dependence, and psychic conditioning constitute addiction in the more strict sense of the term.

Any substance, however, which through its central action tends to soften the emotional stresses and to render less tedious the everyday experiences of life may be a factor in the development of habituation. Other psychic factors involving a conditioned setting of the individual, his emotional and constitutional makeup, may serve as underlying factors in inducing habituation to a substance having a sedative hypnotic effect. The use of such drugs as the bromides and the barbiturates, because of their cumulative effects, induces the picture of chronic intoxication of a more or less serious degree.

There is much evidence to support the thesis that the administration of sedative and hypnotic drugs to the emotionally unstable is fraught with the possibility of inducing habituation. Tillotson [40] observes that drug deliria are most common in psychasthenics, neurasthenics, hypochondriacs, constitutional psychopaths and cyclothymics. He urges that drugs be avoided as much as possible in treating such patients. Sands [5] points out that two types of individuals are most prone to develop intoxication from the use of the barbituric acid compounds. They are the manic depressive types, who are most apt to take large doses with suicidal intent, and the psychopathic constitutional type, who develop symptoms of chronic intoxication from habitual use of these drugs.

Skin Reaction.

The skin reaction in barbiturate poisoning differs from the skin lesion seen in bromism. In the latter the skin lesions appear as acneiform eruptions distributed largely on those parts of the body supplied by the fifth cranial nerve and the cervical plexus. This is in contrast to a diffuse involvement of trunk and extremities in barbiturate cases.

Menninger [13] describes two types of skin eruption in patients receiving phenobarbital: (a) an urticarial type with wheals and itching, or (b) scarlatina-like, morbilliform maculopapular eruption often associated with pyrexia or other systemic toxic symptoms; he says that the rash occurs in one to three per cent of cases.

Poole [14] says that a rash occurs in three per cent of all cases using either veronal or luminal but quotes French observers who believe that such a rash occurs in 20 per cent of people using veronal and in 5 per cent of those using luminal. Poole mentions that, although the skin lesions are usually erythematous or urticarial, mucous membrane manifestations, such as coryza, red throat, blepharitis or conjunctivitis may occur. Loveman [15] describes skin eruptions due to alurate, and Mathew [16] describes a rash from medinal. Lancaster [17] recommends 100 c.c. of 5 per cent intravenous glucose as a treatment for the skin eruption.

Pathology.

Pathological changes at autopsy are not characteristic, according to Work,[18] who reviewed the German literature. Usually there is a general hyperaemia, particularly in the meninges, liver and kidney. There may be edema of lungs, terminal bronchopneumonia, cardiac dilatation or fatty degeneration of the liver. Fraser [6] believes that poisonous doses produce a degeneration of the renal tubular epithelium and of the liver cells.

Wertham [7] states that paralysis of the capillaries in veronal poisoning may lead to brain purpura and to diapedesis in the skin. He also quotes a case with a Parkinsonian syndrome who had evidence of barbiturate in his brain.

Although a few observers believe that the barbiturates have a selective affinity for certain mid-brain vegetative centers, the majority of workers, including Koppanyi [8] and his co-workers, believe that the drug is taken up diffusely by all parts of the brain and also by practically all other organs of the body.

Symptoms of Intoxication.

It is not always easy to differentiate an acute from a chronic intoxication. An individual may have been taking barbiturates at regular intervals for some considerable time and, because of various reasons, of which suicide is the major one, increases the dosage. In such instances the cumulative effect of previous doses influences the clinical picture in terms that might be regarded as of subacute nature. The situations most often arise, however, are on the one hand the result of large single doses, thus giving rise to acute

poisoning, and on the other hand, regular dosage over a period of time which, because of its cumulative properties, gives rise to symptoms of chronic intoxication, or chronic poisoning.

In acute intoxication the patient is usually in deep coma. This coma varies in intensity and duration, lasting in some cases from a few hours to several days. The mental or psychic symptoms, however, that are characteristic range from drowsiness and mental cloudiness to deep coma. Disorientation is common. The narrowing of the horizon of attention is often associated with delusional experiences, the content of which cannot always be elicited until the psychic symptoms have subsided. Schilder [19] described the case of a 24-year-old girl who took veronal in a suicidal attempt. In her confused state she insisted she was in bed with her father, who had died several months earlier. When she recovered from this state she went into a manic psychosis which lasted several months. Hartmann and Schilder [20] later reported the case of a patient who took luminal because of a depression and then went into a hypomanic state.

Euphoria is usually present, occurring in a somewhat incongruous setting, since a large dose of the drug has often been taken during an episode of psychic depression. On the other hand, irritability, agitation and depression are occasionally seen.

While in the coma or mentally cloudy state the deep neurological reflexes are depressed, and general convulsions may occur. Sometimes the Babinski sign is present. As consciousness returns the patient shows outspoken cerebellar signs. Nystagmus or nystagmoid movements are sometimes present while in the state of coma, but as the latter subsides nystagmus and nystagmoid movements are much more common. Other cerebellar irritation is suggested through asynergia, adiadokinesis and hypotonia. There is difficulty in swallowing or standing erect. These organic signs gradually subside, the nystagmus, however, usually remaining longer than the other signs, with some inability of the patient in fixation. Speech disturbances of a cerebellar nature are usually present and subside with the other symptoms, although in some instances the slowing of speech is the last symptom to disappear. On the mental side the patients usually show a hypomanic picture, which may persist after all neurological symptoms have completely disappeared. In occasional cases the neurological signs so dominate the clinical

picture as to resemble severe organic cerebellar disease. In chronic intoxication there is some difficulty in concentration, occasional disorientation, and often an incongruous euphoric-like state, which may be the only symptoms and dominate the psychic picture.

A fall in the calcium content of the blood,[22] with a decrease in phosphorus and magnesium content, an increase in carbon dioxide tension, epigastric pains,[23] arthritic, myalgic and neurological pains,[4] jaundice,[24] agranulocytic angina,[25] have all been noted in chronic barbiturate poisoning. Clinical reports have called attention to symptoms resembling those of lethargic encephalitis,[28, 29] multiple sclerosis,[30, 31] syringomyelia,[32] and tabes.[33] Scott [34] describes a comatose patient who later developed pappilitis, which disappeared after six weeks. Lundy and Osterberg [26] believed that 3 per cent of all persons who habitually used barbiturates developed toxic symptoms.

Abusive Use and Dangers of Self-Medication.

The barbituric acid preparations are often used in self-medication for the relief of insomnia, for the effects of chronic alcoholism, and for softening emotional stresses. The taking of large single doses is seen in reactive depressions, and also in cases of manic depressive psychoses. In the present study alcoholism was a factor in almost half (48 per cent) of the patients. Menopausal symptoms were given as the next most common cause for self-medication, and marital difficulties was the third most common cause. Other reasons enumerated were insomnia, loss of money or occupation, neurotic symptoms or physical complaints, including ulcers of the stomach, diarrhœa and other intestinal disorders.

Frequently the patient received a physician's prescription once and had it renewed repeatedly without further consultation with the physician. At times friends recommended such preparations.

Since 1905 numerous cases of barbituric intoxication have been reported. Webster [35] in 1930 summarized the work of many writers. He observed that barbiturate usage was the seventh most frequent cause of deaths due to all poisons. Leake and Ware [36] reported 61 cases of poisoning in a 2-year period at the Los Angeles General Hospital, 19 using the drug with suicidal intent. Work [18] reported 100 cases in a 3-year period at the Denver General

Hospital. Lowy [37] learned through questionnaires sent to every hospital in the United States that 50 per million died from barbiturates. Weiss [4] believes that the barbituric acid preparations are the most widely used sedatives and hypnotics, and raises the question as to whether their use may not have a deleterious effect on a large section of the population. Fantus [38] comments upon the high mortality, and Scarlett and MacNeil [39] have collected reports on 408 deaths from barbiturates up to the end of 1934.

Need for Control.

There appears to have been an increase in the abusive uses of barbituric acid preparations, both as the drug of choice in attempted suicide and for self-medication. The drug is evidently cumulative in the body and produces a train of mental symptoms of such a degree as to warrant in some instances their admission to general or special hospitals. Medical students and general practitioners should be familiar with the dangers associated with the use of these drugs, and of the toxic and psychotic symptoms arising from their careless or unsupervised administration.

The laity should also be informed through various media of the dangers associated with the use of these drugs. Some legal measures have already been taken in several states and local jurisdictions restricting the sale of barbituric acid preparations, and they should be more widely adopted. Drugs of such potential danger should be sold only through a physician's prescription, which cannot be refilled.

Treatment.

The treatment of mild intoxication from the barbiturates consists of withdrawal of the drug. This is usually sufficient to relieve the patient. Weiss [4] and Fantus [38] describe in detail the treatment of severe acute intoxication. They recommend gastric lavage with warm saline, followed by the insertion of 30 to 60 grains of magnesium sulphate in the tube, keeping the head lowered to prevent aspiration pneumonia; frequent change of the patient's position to prevent hypostatic congestion; hot coffee enemata; 5 per cent dextrose intravenously; catheterization every four to six hours; artificial respiration if indicated; injection of caffeine sodium benzoate intramuscularly every two hours; and intravenous doses

of strychnine nitrate if indicated. Several writers, including Haubrich [41] and Reese [42] advocate the administration of 5 to 11 c.c. of 25 per cent aqueous solution of coramine intravenously. Wagner [22] and Linegar [43] recommend the giving of 5 to 10 milligrams of picrotoxin, a 5 to 10 per cent solution in distilled water intramuscularly or intravenously. Purves-Stewart and Wilcox [44] recommend withdrawal of spinal fluid by lumbar or cisternal punctures. They also advocate giving cardiac stimulants, as digitalin and strophanthin. For the restless, hypomanic states the writer has found hydrotherapy in the form of continuous baths and wet packs of beneficial effects. Sedatives should be withheld.

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DISCUSSION.

DR. MAX LEVIN (Harrisburg, Pa.).—As physicians and psychiatrists, we should utilize every opportunity to study the mental effects of drugs. Considering that mental disturbances due to drugs belong, so to speak, in the more concrete rather than in the more abstract realms of psychiatry, it is surprising that so little is known about them even today. However, in recent years there

has been a great increase in interest in these disturbances, thanks partly to improved quantitative laboratory methods, and partly also, unfortunately, to the terrific popularity of certain drugs as therapeutic and suicidal agents.

I think Dr. Curran is right in stressing the occurrence of convulsions in barbiturate intoxication. At the Harrisburg State Hospital we recently had a patient who took barbital for several years and became increasingly intoxicated. A few months before admission, her intoxication had reached an extremely severe stage, and two weeks before admission she began to have epileptic fits. At this time, too, she became delirious. On admission to the Hospital, she was in *status epilepticus*, and had six seizures within a few hours after admission. No seizures occurred thereafter. On her third day in the Hospital, she emerged from coma and showed a picture of pronounced delirium from which she made a complete recovery after several weeks.

One thing surprises me, and that is Dr. Curran's statement as to the relative infrequency of delirium in barbiturate intoxication. It is my impression that delirium is a rather common psychosis in this group of intoxications. I wonder whether there is a difference in this respect between acute and chronic intoxication. In other words, I wonder whether the hypomanic reactions mentioned by Dr. Curran were chiefly in those patients who attempted suicide with barbiturates and who were, therefore, in an abnormal affective state at the time, and whether, on the other hand, patients with chronic barbiturate intoxication might not show a greater incidence of delirium.

Dr. Curran is to be congratulated on his success in demonstrating the differential points of intoxication with bromides and with the barbiturates—the two most important of the drugs which produce neuropsychiatric symptoms. Dr. Curran, doubtless, would be the last to claim that the final word has been said on the subject, but his observations are highly provocative. Among the differential points he has mentioned, I would stress the importance of the size of the pupil. In a fairly large series of cases of bromide intoxication I have found, as a rule, only minor changes in the size of the pupil, whereas it is my impression that in barbiturate intoxication striking dilatation of the pupils is common. I recall two recent cases of delirium due to barbiturates, in both of which the pupils were of virtually maximum size; they slowly returned to normal as the intoxication subsided.

Dr. Frank J. Curran (New York).—Dr. Levin has brought out the few points which should be emphasized. Due to the fact that I had only 20 minutes to give my paper, I could not bring out all these points.

As far as the pupillary reactions are concerned, it has been my experience that widely dilated pupils were commonly found in cases of bromide psychoses.

We have had a difficulty in finding pure bromide or pure barbiturate psychoses, because so many of our patients use combinations of these drugs. I am just wondering whether in your experience some of these patients may not have been using combinations of bromides and barbiturates. Sometimes it is difficult to differentiate unless one does a chemical investigation, and routinely we tried to do a blood examination for the presence of bromides

and a urine examination for the presence of barbiturates. I excluded from my first series any patients in whom there was either a history of the use of bromides or any chemical evidence of its presence.

As for the infrequency of deliria, I am wondering whether that isn't pretty much the same, that these patients often have a combination of drugs, and in the second series which I did not discuss here, a much larger percentage of the patients using both barbiturates and bromides had delirium reactions.

Of course we see these people in a psychopathic hospital, such as Bellevue. Their condition usually clears up within a few days or a week, and, therefore, they are not the cases that are usually committed to state hospitals.

In our cases, the same type of hypomanic pictures were present whether the person took large single doses of the drug, or took the drug in smaller amounts over longer periods of time.

LOSS OF TEMPORAL LOCALIZATION AS A MANIFESTATION OF DISTURBED SELF-AWARENESS.*

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The following case is reported, not because it may be rare, but because of the light which it throws upon the relationship of the loss of temporal localization to disturbances of self-awareness. The nature of the patient's difficulties is such that his condition falls probably within the group of "the convulsive disorders." Emphasis, however, is laid upon the specific psychological disturbances which he manifests since these are the features which lend unusual interest to the case.

CASE HISTORY.

The patient, A. J. DeB., is a white male, 38 years of age, who was sent to a general hospital because he suddenly became very excited and threw a glass at his sister. On admission it was noted that his expression was staring and suggestive of *petit mal*. He was confused and cried out in an inarticulate manner. A thorough examination of the nervous system was impossible because of his struggling. He refused food and transfer to a mental hospital was considered imperative. He was admitted to the Worcester State Hospital on August 12, 1937.

The *anamnesis* revealed that when the patient was 13 years of age he began to have episodes during which he shouted at the top of his lungs in a terrifying manner. This was first noted at a time when he occupied the same bed with all his four siblings. He frequently yelled until he was exhausted. These episodes became progressively worse, *i. e.*, longer in duration and recently, more frequent. Sometimes they did not occur for months at a time. At no time was it noticed that he lost consciousness. There were no tonic and clonic spasms nor incontinence. He had complete amnesia for these spells.

Ten years ago at the age of 28, he began to complain of dizziness and headaches and on the advice of a physician all his teeth were extracted. About a year before admission he began to express complaints about his heart and his digestive organs; he was taken to a neurologist who said he

* From the Research Service and the Male Psychiatric Service of the Worcester State Hospital, Worcester, Massachusetts.

had epilepsy. He seemed to improve with medication and got along well. One night, about five days before admission, he came to his mother, grasped her by the wrist and began to tell her "how wonderful she was." He was entirely nude. He seized her so tightly that her wrist was injured. When his father remonstrated with him, he said, "Oh, you're dead." While in the room he suddenly became limp and stuporous and was carried off to bed. The following morning he acted "as if he were dizzy and went about looking at the floor." He sat about the house most of the day. In the evening it was noticed that he was mumbling something about Egyptian mummies, paying no attention to anyone.

On the day prior to admission, he suddenly became mute for some three hours and a physician was called. The patient did not answer questions at first, then began to shout, "I know why you're here! You're not going to do anything to me!" His behavior on the day of admission has already been noted.

The *family history* reveals nothing of significance.

The patient's *early development* was quite normal. He had pneumonia at the age of one year. He left school when 14 years of age in the eighth grade where he was considered fairly bright. He has had jobs as an unskilled laborer in mills where his work was always considered good. His hobby is the making of boat models; these replicas are executed with remarkable detail, indicating good sense both of color and proportion as well as of design and construction.

His personality is described as sociable and friendly. He has never shown any mood-swings. He has no particular ambition. The members of his family were his only intimates. He usually chose people younger than himself as his companions; "he was known as the 'king of the kids.'" According to the family he had no interest in girls but he reports one heterosexual affair. His moral and ethical standards have been high. He drinks only an occasional glass of beer.

The *mental examination* revealed that the patient was very confused during the first 24 hours in the hospital. He complained of dizziness but this soon disappeared. After this period he manifested no unusual behavior. He denied ever having been unconscious or of having had a convulsion. No delusions or hallucinations were elicited. He said that something must be wrong with him to make him have "dizzy unbalanced spells" and to make him act as he did before he came to the hospital. His speech was clear, coherent and relevant; he spoke spontaneously with other patients. Mood seemed appropriate to his thoughts at all times. He had a complete amnesia for the events following his removal from his home to the general hospital and to the Worcester State Hospital.

In view of the co-operative attitude of the patient the results of the psychometric examination were considered representative of his present condition. The Wells memory test showed some evidence of general memory impairment (M.Q. 75 per cent). Results of the Stanford-Binet test placed the patient's intelligence at a mental age of 9 years 8 months, I.Q. (14-year basis), 69. His attention was good, his responses quick and relevant. He

seemed to be contented with a rather childish reaction to some of the test problems. His comprehension of directions was fair. Ideation and abstract judgment were very poor but practical judgment was superior.

The most striking feature was the inability to localize past events in time. He can remember events of the recent and remote past but his ability to localize them in time beyond approximately one day is lost. The descriptive details of the events which he recalls do not change on repetition. Intensive investigation revealed that the defect makes itself apparent after about a 16 to 20 hour interval and becomes more profound as the past becomes more remote. For example, he remembers clearly that he had bought a pair of shoes, where he had bought them, how much they cost, what they looked like, etc., but he *could not remember even approximately when he had obtained them.* (The purchase had occurred 6 weeks previously.) He described his one heterosexual affair in great detail, apparently quite accurately, but he could not tell when it had taken place. Other examples of the defect concerning an event of the previous week is revealed in the following conversation. (Do you have any new clothes?) Sure, my father sent me some. (What did he send you?) A shirt, 6 pairs of socks, 2 ties, 6 handkerchiefs, a suit of clothes, that is, a pair of pants, an undershirt and a pair of shorts. (Correct.) (When were these clothes sent you?) I don't know exactly. . . . . (When did you shave last?) I have been in two places and I can't keep track of when I shaved. (But when did you shave last?) The barber shaved me. (When?) I don't know. (This had taken place three days before.)

The patient tries to make use of certain time landmarks of the past, a device which apparently has served him pretty well in ordinary social intercourse. When he is pinned down to a statement of exactly when something had occurred, he gives a date which obviously lacks true temporal significance for him. In establishing such dates he makes use of associated events, *i. e.,* by recalling an occurrence which had been roughly contemporaneous. An example of this is the following: (Were you ever sick in your life?) Yes, when I had the flu. (When was that?) It was when I had a fight with my brother. (How do you know it was then?) Because I was fat then.

Further questioning revealed that he also makes use of school knowledge, though in a quite automatic way, as a time-fixing device. For example, it was revealed that he had been ill "during the war." (How do you know it was then?) The war was over in 1918. (What month was it?) Around winter. (Was it anywhere near when the Armistice was signed?) Yes. (When was that?) November 11th. (What year?) I don't know. Sometimes, when apparently trying to give the time of occurrence of an event very accurately, he gives an answer but when asked again about it the answer is different; for example, he stated once that the sexual affair had taken place when he was 37, and at another time when he was 29.

It seemed fairly clear that the patient knows he has some sort of temporal localization defect. For example he stated, "I can remember back years

and years. I know it's there like a book I have inside of me, but I can't find it." Furthermore, he often becomes annoyed when questioned closely concerning it. For example, when he was asked to tell another doctor about his one sexual experience with a woman, he became obviously irritated and burst out, "My God, do I have to go over it again?" On further questioning he became still more irritated when asked when something else had happened and said, "I don't know why I can't remember. I don't like to try to remember." [1]

An attempt was made to see how he experiences the present but he became quite confused by the questions and little light was shed upon this point. For example: (Are you ever bored?) Yes, sometimes. I like to be doing something. (When you're not doing something, how do you feel?) Restless. (Does time ever hang heavy on your hands?) What do you mean? An attempt was made to amplify this statement but the patient merely smiled vacuously and was apparently loathe to continue this conversation.

The patient's estimation of subjective time intervals over a period of about an hour is good. He was shown a watch and said, correctly, that it was 2.25 p. m. Every 7 to 10 minutes he was asked to guess what time it was and he guessed quite accurately. After more than an hour of such guesses he was asked what times he had previously given and he repeated them in correct order.

General *physical findings* were essentially normal except for minor abrasions on the extremities, a high-arched palate, edentulousness, and a patent right inguinal ring. *Laboratory examinations* revealed the blood count, urine, blood chemistry and spinal fluid to be within normal limits. The Hinton and Wassermann tests were negative. Stereoscopic X-ray photographs revealed nothing unusual. The pineal gland was calcified. Encephalographic studies were also carried out; only 65 cc. of cerebrospinal fluid could be removed; none of the ventricles was found to contain air, an observation which was interpreted as probably of no diagnostic significance in this case.

Routine *neurological examination* revealed no gross abnormal findings except a tendency to past-point to the right. He could indicate correctly the main directions in space; even the left-right orientation, which usually is most readily affected, was intact. He read and wrote Roman numerals without transposition. The watch was correctly read and he placed accurately the hands on the clock figure to given commands. Irregular geometrical figures were reproduced without reversals. He can read numbers and simple words; he mispronounces long words and must re-read somewhat involved

[1] Such an attitude on the part of this patient resembles very closely those observed by Goldstein in patients with brain damage who avoided activities or situations with which they could not cope. The tendency to avoid such situations need not be conscious for the patient. According to Goldstein, the significance of such an attitude is the obviation of situations in which the patient can act only in a panicky, unco-ordinated way (*Katastrophenreactionen*). (Goldstein, K. Der Aufbau des Organismus, Martinus Nijhoff, Haag, 1934, p. 27.)

sentences in order to make some sense out of the passage. Words which he cannot pronounce are omitted. He can write to spoken and written dictation, his writing showing no particular abnormalities. His spelling is very poor; the spelling defect is essentially one in which letters are omitted. The Schilder-Hoff test for postural persistence was within normal limits bilaterally. Test for localization of tactile stimulation revealed rather gross errors. For example, when the index finger of the right hand was stimulated the patient localized the point of stimulation on the ring finger. The patient, however, recognized that he made errors, *i. e.*, he knew his errors had been made to the right. It was therefore concluded that the errors were not of tactile localization, as such, but were due to the past-pointing. On the Weber test lateralization was to the right.

He talked freely of having had attacks of vertigo. During them he tends to fall forward and to the left but he has never injured himself, thanks to the fact that he can lower himself quickly to the ground in anticipation of the fall. The attack usually passes away quickly. He stated that during the attack the world rotates about him in a clockwise direction.

Although the loss of temporal localization was the most outstanding feature, examination also revealed evidence of disturbance in another sphere, namely, in the patient's experiences of his body-self. He has had *experiences of falling apart* as shown, for example, by his statement, "One night I felt like something busted inside of me. Something broke, like some things touching each other broke." He has also had *experiences of lifelessness;* for example, he stated, "I went out into a faint, into a coma-like. I felt like I died and then came back again. It was more of a feeling of (patient was blocked at this point) it's hard to remember. I was dead. I had no life in me. I felt I was dead. It seemed like I went away and then came back." Furthermore, he has had various *experiences of paraesthesia,* which have been found in other conditions characterized by disturbances of the body-self. These consist of sensations of currents which are felt to run through the body and sensations of some kind of light substance emanating from the body. As examples of the former the following statements may be adduced: "I felt my hair, like something heavy starting from my nose and going over and down the back of my head to my shoulders." "I feel things running through me like water. It comes from my legs and stops in the middle of my stomach." "Sometimes it feels like food is going somewhere else." Examples of the latter are the following: "Something went this way (patient moved his right hand quickly over his left shoulder) and then I went away. Like my self would leave me and I would be there for a very short while. But I wasn't there. Everything went away from me, like something light." "It's a feeling that something went away from my body. Like somebody took it from me. It felt like an operation going on but there was no pain. It's a quick movement." "When I was walking I felt like my arms, legs and something off my back went away and I was bare. No clothes on. It's a funny feeling."

He denied that he had ever felt that a limb had been moved non-voluntarily (*motor influences*), that his body had become larger or smaller (*body-*

expansion or contraction), that external objects ever seemed distorted, larger, or smaller (*dysmorphopsia*) or that he had a double (*phenomenon of alter ego*).

The patient said that he dreams "every night" and recounted several dreams of which the following is of especial interest: "I dreamt of a lot of women and two little bits of girls going around in circles. They were dressed in black, like in black veils. *They went in a circle* (patient made clockwise motion with his hand). They *started off slow, went faster*, then I didn't see them any more."

DISCUSSION.

Analysis of this patient's difficulties in terms of the "dynamic" factors involved, particularly the Oedipus-situation revealed in the anamnesis, will not be attempted because the patient's period of hospitalization was too short for any extensive elucidation of such factors. Their probable importance in much of his behavior cannot be denied; their relevance to our specific problem, however, must, for the present, remain an open question.

Within the knowledge of the writers the loss of temporal localization has been only meagerly referred to in the past. Korsakow [2] has mentioned a patient with a puerperal psychosis and neuritis who could not state whether a given event had occurred one day before or three years before. Ransohoff [3] has described a patient with alcoholic neuritis who characteristically reported events which happened one or two days previously as having happened several months before. From these cases, and others which do not appear as clear-cut, Störring [4] has concluded that in such cases the principal characteristic is that some derangement of memory for temporal relations has occurred which is due "to diminished power of reproducing the past in a coherent series of ideas."

In what manner can one explain the loss of temporal localization in this patient? His inability to recall the screaming spells and the somnambulistic attack seems to represent the typical amnesia for

[2] Korsakow, S. S.: Ueber eine besondere Form psychischer Störung, combiniert mit multipler Neuritis. Arch. f. Psychiat. u. Nervenk. 21: 669, 1889.

[3] Ransohoff, —: Ueber Erinnerungstäuschungen bei Alkohol-paralyse. Allg. Zeit. f. Psychiat. 33: 933, 1897.

[4] Störring, G.: Mental Pathology in its Relation to Normal Psychology. Swan Sonnenschein and Co., London, 1907, p. 170.

such events. But the defect of temporal localization is for *all* events. It includes experiences charged with considerable "emotionality" which suffer equally with those in which the "emotionality" is slight. For example, his one sexual affair, the purchase of new shoes, the clothes which his father had brought him, all suffer the same loss. Similarly, the patient cannot recall when he has had his dizzy spells, or the peculiar body-feelings, experiences which are certainly out of the ordinary and probably quite frightening.

In the light of the total picture, it seems feasible to attempt an explanation of this problem in terms of disturbed self-awareness. As a group of experiences, self-awareness may be looked upon as an entity which is quite distinct even though its boundaries are difficult to define. It is the "Me" which William James [5] has described as something clearly distinguishable from the "outside world." In it are involved sensations, perceptions, images, and conative, cognitive and emotional processes. The structure and unity of self-awareness can be ascribed to the structuralization of these experiences into various large organizing factors, and of these, interest is attached in the present connection to the schemata of space and time. The discovery of the "space schema" was made by Head who termed it the "postural model of the body." Similarly, there is a "time schema," organized in such a manner that it serves as a sort of skeletal framework into which experiences of the past and future are fitted. For, what one calls the "Me" or the "Myself" is not only the cross-sectional *status quo* of *what I am* but also comprises the *what I was* (memory) and the *what I will be* (purposive activity, planning, anticipation).

The experience of the space-image of the body and the temporal continuity of the individual are fundamental features of self-awareness. It is as one manifestation of a general disturbance of self-awareness that the temporal localization defect in this patient may be regarded. It would be very unusual, however, to find such a defect alone as a manifestation of disturbed self-awareness, *i. e.*, to find the time-structure of self-awareness to be defective and other aspects to be entirely intact. Analysis of these other aspects supports our thesis, for this patient does manifest other disturbances of self-awareness, which are mainly of the experiences of

[5] James, W.: The Principles of Psychology, Henry Holt and Co., New York, 1890, Vol. 1, Chapter 10, p. 291.

disorganization of the body-self. The evidence for this has been previously cited and includes the experiences of falling apart and of lifelessness. In addition to these, the patient expresses experiences of paræsthesias (currents, emanations) which Angyal [6] has demonstrated in depersonalized schizophrenics to be due to involuntary muscle tonus changes. Angyal found the source of these involuntary contractions in his cases to be in another symptom, namely, the experience of motor influences.[7] The absence of motor influences in our case of course excludes a similar source and makes one suspect the existence of another, very probably organically determined, tonus fluctuation of the muscles as the basis of the paræsthesias, possibly vestibular (or cerebellar) in origin, and suggested also by the dizzy spells and past-pointing. The dreams which were reported are said to be characteristic for patients with vestibular disturbances (Schilder [8]). It is of interest also to note that Schilder [9] has pointed to the frequent association of vestibular dysfunction and disturbances of the "time-sense."

The purpose of this report has been to indicate that a disturbance such as loss of temporal localization may be related to the more general disturbance of self-awareness. This thesis was supported by evidence of other features of disturbed self-awareness, namely, in the experiences of a disorganized body-self. The origin of the disturbance of self-awareness could not be determined in the present case and is beyond the scope of the present study.[10]

[6] Angyal, A.: The Experience of the Body-Self in Schizophrenia, Arch. Neurol. and Psychiat., 35: 1029 (May), 1936.

[7] Angyal, A.: (Personal communication) has found that in most of his patients in whom body-self disturbances were the outstanding features, one or another kind of change in time experience was also very common.

[8] As primary phenomena of the dreams of patients with vestibular disturbances Schilder emphasizes the characteristics of movement and speed. (Schilder, P. The Vestibular Apparatus in Neurosis and Psychosis, J. Nerv. and Ment. Dis. 78: 1 (July), 1933.)

[9] Schilder, P.: The Unity of Body, Sadism and Dizziness. Psychoanal. Rev. 17: 114 (April), 1930.

[10] Although in this paper no attempt was made to ascertain the relationship between this disturbance and the patient's "convulsive" disorder, it may be suggested that various kinds of "spells" characterized by episodic interruptions of temporal continuity, and the different ways in which they become manifest, may eventually be better understood by reference to the general concept of disturbed self-awareness.

SUMMARY.

A case is reported in which a patient presenting a history of some kind of "convulsive" disorder was found to have a loss of the ability to localize past events in time. This defect was studied intensively and has been explained as due to disturbed self-awareness. This explanation was supported by other evidence of disturbed self-awareness, namely, experiences indicative of disorganization of the body-self.

EIGHTEEN HUNDRED AND SEVENTEEN CASES OF SUICIDAL ATTEMPT. A PRELIMINARY STATISTICAL SURVEY.*

By PHILIP PIKER, M. D.

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Studies of suicide done until now may be classified, for the most part, under two methods of research. One attempted in the beginning to explain the phenomenon by philosophic conjecture, and more recently according to one or another notion of specific genetic-dynamic psychopathology. The second method of study was by the accumulation of mensurable data concerning groups of suicidal attempts and having to do with sex and age incidence, methods used, chronology, nativity, geographic distribution, and so on.

Both of these avenues of approach to the problem are open to criticism. The first, which assumes that there must exist the same prerequisite set of circumstances in every instance in which an individual attempts suicide, is an attempt at simplification of the issue which indicates merely that the tendency to blame isolated etiologic agents dies hard. It should be kept in mind that suicide is an end result, an expression of a complexity of factors which may vary from individual to individual just as personalities vary. To consider it a disease entity, and to try to study and prevent it as such, is as eclectic a procedure as would be a research into the cause and prevention of fever. All cases of hysterical anesthesia of the right hand could hardly be explained on the basis of a uniform psychogenesis. No single reason could suffice to explain all chronic alcoholics or all claustrophobiacs or all wife-beaters. These manifestations are merely indications that the psychobiologic mechanism has gone awry—they are symptoms of maladjustment which may have developed in different individuals from a variety of combina-

* I would like to acknowledge the assistance of Helen N. Piker, without whose aid the task of gathering the material contained in this report would have been practically impossible.

tions of adverse physical and psychologic influences. And similarly is a suicidal attempt a symptom of maladjustment. Because of its spectacular nature, its frequently fatal outcome, its contradiction of what has come to be accepted as one of the primary instincts, and its violation of social and religious codes, many investigators have been stampeded into a state of mind which figuratively permits the trees to obscure the total view of the forest. The study of suicide is justified, as is research into other symptoms, only on the grounds that such investigation may yield hints regarding the fronts on which the general problem of human maladjustment should be attacked.

The attempts at statistical analyses of the suicide problem have always suffered because of the inadequacy of the available data. Many suicide deaths are not recognized as such; and probably even more unsuccessful suicide attempts do not come to light. This lack of complete information dilutes the accuracy of statistical interpretation and discolors to some extent any conclusions that might be drawn from such material. The growing volume of data reported, however, tends to minimize in the mass the errors inherent in the study of smaller groups of cases.

It is true that this gathering of statistics cannot of itself be expected to result in an answer to the why of suicide, or to indicate a specific prophylaxis. Nevertheless, it is a task worth doing in that it helps reveal the frequency of one of the end-results of maladjustment, and calls attention to some of the facts regarding maladjusted individuals and groups in a manner that may help point the way to intelligent consideration of the problem of sociologico-psychologic adaptation.

Introduction.

This paper represents a survey of 1817 cases of attempted suicide (successful and otherwise) which were brought to the Cincinnati General Hospital in the ten year period from January 1, 1927, to December 31, 1936. The study was made, first, in order to contribute to the accumulating data on suicide; second, in the hope that it may shed some light on the local aspects of some of our social problems; and third, as a preliminary step to a more intensive investigation into suicide and its implications as one of the barometers of human unhappiness.

The material contained in this report was obtained entirely from the hospital records. It does not purport to represent accurately the suicidal activity of either the entire city of Cincinnati or of a selected cross section. Since ours is a municipal hospital, the patients most likely to be seen are those of the lower economic strata; though it is probably true that, because of the emergency nature of many of these cases, the average financial status of the group is higher than that of the hospital population generally. To be taken into account, also, is the fact that a number of suicidal attempts were not recorded as such, either because the origin of the patient's condition was not discovered by the hospital attaches; or because the majority of these patients were admitted to the medical or surgical wards where the patient's physical condition alone is too frequently the only consideration, with the result that the suicidal nature of the case was not noted on the record. Included in this survey were only those cases concerning which reasonable certainty was felt in regard to the presence of the suicidal factor. It is my opinion that the number of cases missed because of insufficient information recorded was not large. Another shortcoming of this survey that undoubtedly will be noticed as the data are presented is the lack, in a number of cases, of some part of the material sought in this investigation. This failure to record information was most marked in the earlier years of the ten year period under consideration, when the secretarial personnel of the hospital was less numerous and efficient than it has become more recently.

The statistical possibilities of the included material were not nearly exhausted in this study, because of a lack of time and assistance. The numerous possible correlations, the determination of the reliability of the differences, etc., remain to be done. Consequently, no final conclusions have been drawn, save perhaps this one: that suicidal attempts occur in a great variety of individuals under a variety of circumstances. It is hoped that further consideration of these statistics and their superficial inferences will help to give direction to a more profound investigation into the complex phenomenon of maladjustment.

Total Cases, Sex and Color.

It should be kept in mind when examining the figures throughout this report that, except for those having to do with the annual

distribution of cases, they represent an accumulation over a ten year period. Table 1 indicates the gross distribution according to sex and color.

A consideration of the per capita distribution of cases (Chart 1) yields a more accurate notion of the sex and color incidence. It will be noted that though more white females attempted suicide than did white males, the difference is not large. Among the negroes, however, the variation between the sexes is marked. Indeed, the extraordinarily high incidence of suicidal attempts among negresses, when compared to any of the other sections of the population, is so striking that considerable weighing of this situation is in order. One should remember, when noting the slightly

TABLE 1.

GROSS DISTRIBUTION OF CASES FROM JANUARY 1, 1927, TO DECEMBER 31, 1936, ACCORDING TO SEX AND COLOR.

	White.	Negro.	Total.
Male	577	76	653
Female	806	358	1164
Total	1383	434	1817

higher incidence of negro males than white males, the fact that negroes are more likely to be brought to our hospital than are white patients; so that it is likely that the suicidal rate in white males for Cincinnati as a whole, exceeds that for negro males. Nevertheless, there is a sufficiently high representation of negroes in this series to suggest that the often assumed notion that negroes manifest relatively little suicidal activity is not true. Certainly the female portion of the negro population turns to suicide with alarming frequency.

ANNUAL INCIDENCE.

When this survey was being planned, the decision to include a ten year span from January 1, 1927, to December 31, 1936, was made, in part, because this period included not only the depression years, but also pre-depression prosperity and post-depression recovery phases. It is impossible, however, to find any consistent correspondence between these economic fluctuations and the curve

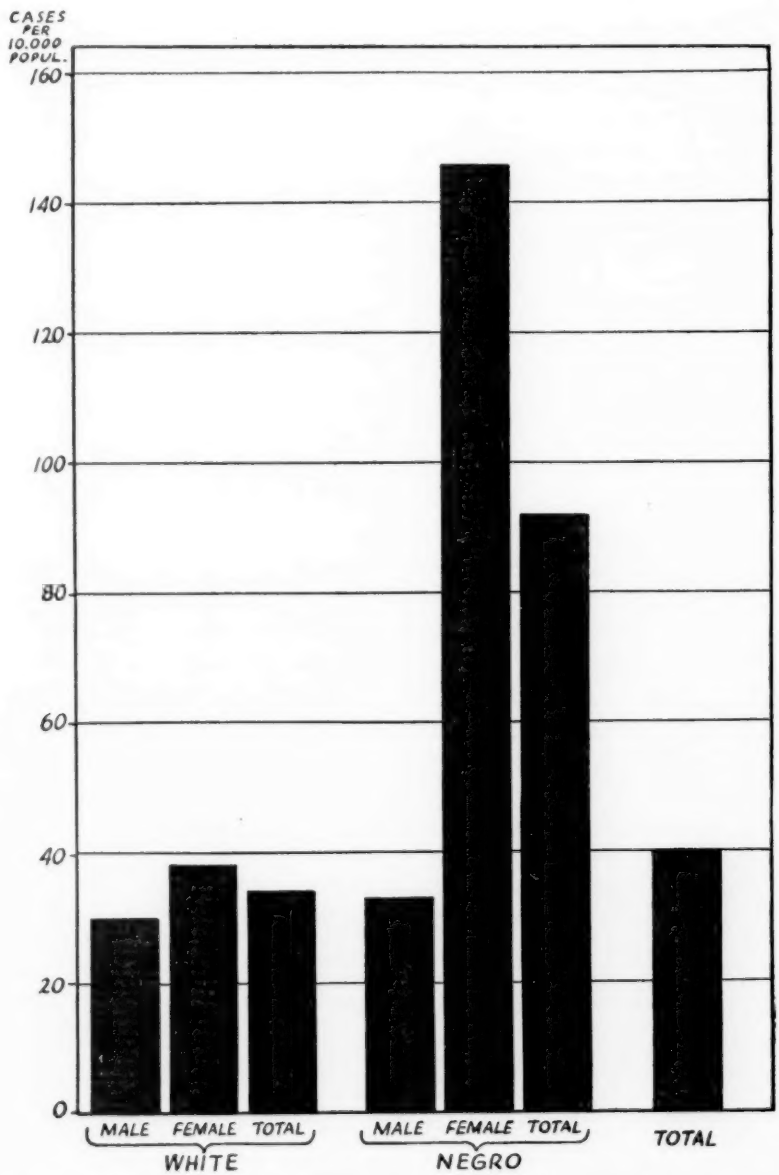

CHART 1.—Number of Cases, Per 10,000 Population, According to Color and Sex (Jan. 1, 1927, to Dec. 31, 1936).

of suicidal activity (Chart 2). The frequency of attempted suicide increased steadily from 1927 through the prosperous years and the beginning of the depression, rose sharply in 1932, fell even more abruptly the following year, and has been rising definitely since then. In general, with the years 1932 and 1933 eliminated, one notes a persistent rise since 1927. As a matter of fact, the rate for 1936 almost attained the 1932 peak.

Examining the population in the light of color and sex divisions, we see that all the curves conform fairly closely to the general trend. Both the female curves have the orthodox configuration; and except for 1935, when a definite drop occurred, the male variations corresponded to those of the total group. The irregular negro male curve is invalidated by the small number of cases represented; but even here the general upward direction is noticeable.

When the annual number of suicidal attempts is compared to the annual distribution of total hospital cases for the ten-year period, a somewhat different picture is obtained. The number of total hospital cases increased steadily from 1927 to 1936, with only slight irregularities in the rise of the curve. The percentage of suicidal cases, however, did not remain constant. Beginning in 1929, the suicidal rate increased markedly, continued its rapid rise in 1930, and then more or less held to its 1930 level in 1931 and 1932. With the total number of hospital cases continuing to rise in 1933, the percentage of suicidal cases dropped spectacularly. In the ensuing three years the rate again increased, but less rapidly than in the first four years of the period under consideration. Thus if the years 1930 to 1933 are eliminated the acceleration of the percentage incidence was fairly regular.

Monthly Incidence.

A comparison of the suicidal activity of the four groups with regard to the months of greatest and least frequency shows little conformity. For the white males, January first, then November, August and December provided the greatest number of cases. August was high for the white females, followed by June, September, and May. There is a suggestion here that white male suicide attempts are more likely to occur during the colder months, and that white females turn to self-destruction oftener in the

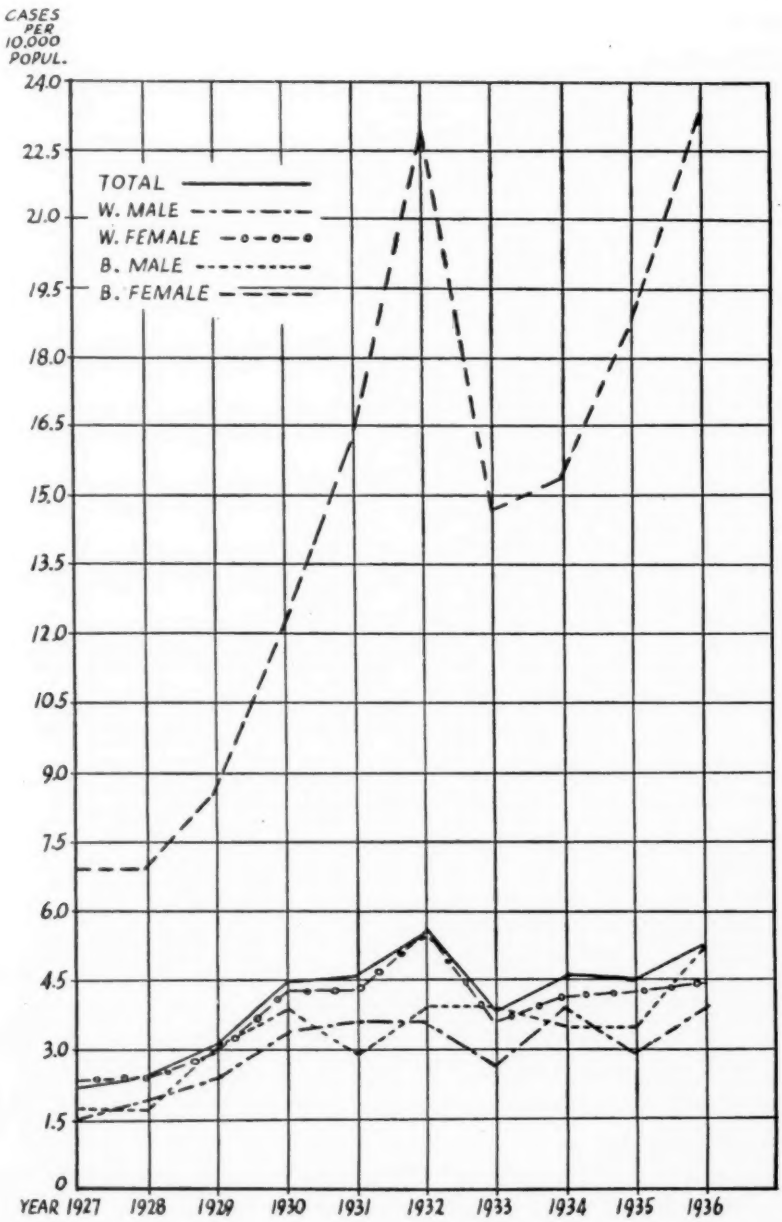

CHART 2.—Annual Incidence of Suicidal Attempts, Per 10,000 Population.

warmer months. This, however, is only a suggestion and is far from adequately proven by these data. The negro female attempts were most numerous in September, April, October and May, a high autumn and spring incidence. The negro males present too few cases per month to be significant.

Incidence by Day of Week.

The day of the week on which the greatest number of suicidal attempts in this series occurred was Sunday. The Sabbath was most popular with the white females and with the black males and females. For the white males, however, Wednesday was the chief offender. In general, the latter half of the week produced fewer suicidal attempts; and this generalization held good for the separate sex and color groups.

Incidence by Time of Day.

The information available on the records of these patients unfortunately did not include the time of the suicidal attempt in a majority of cases. For those concerning whom this detail could be ascertained, it was noted that the period between midnight and 6.00 a.m., though it includes the romantic and ominous zero hours, provided less suicidal activity than did any other part of the day. The evening was the most frequently selected time, with the afternoon and morning following in order.

Age Incidence.

The average age in this series was 32.7 years (Table 2). It was apparently higher for the white population than for negroes, with the white males having the highest and the negro females the lowest average. Examining the suicide incidence according to age groups (Table 2), it is seen that the males reached a peak in the 25-29 year division, and that the decrease thereafter was generally quite gradual, the entire distribution through the male life span being fairly regular (Chart 3). The period of greatest incidence among the females occurred earlier, in the 20-24 year division, with a sharp decline apparent in ensuing years. It is interesting to note that the age curve of female suicidal activity was similar to

that for ovarian activity; and that the decline in the incidence of suicidal attempts continued without interruption through the menopausal years.

TABLE 2.

AGE INCIDENCE OF CASES, PER 10,000 POPULATION.
(January 1, 1927, to December 31, 1936.)

Age.	White.						Negro.						Total.	
	Male.		Female.		Total.		Male.		Female.		Total.		Total.	
	No. cases.	Per 10,000 popul.	No. cases.	Per 10,000 popul.	No. cases.	Per 10,000 popul.	No. cases.	Per 10,000 popul.	No. cases.	Per 10,000 popul.	No. cases.	Per 10,000 popul.	No. cases.	Per 10,000 popul.
10–14	1	0.7	6	4.3	7	2.4	3	15.0	5	25.0	8	20.0	15	4.5
15–19	20	14.3	130	92.9	150	53.6	4	20.0	69	345.0	73	182.5	223	69.7
20–24	65	43.3	207	121.8	272	87.7	18	90.0	119	595.0	137	342.5	409	116.9
25–29	88	58.7	143	84.1	231	70.0	17	85.0	82	273.3	99	198.0	330	81.9
30–34	68	48.6	93	62.0	161	53.7	10	50.0	50	166.7	60	120.0	221	63.1
35–39	64	45.7	73	45.6	137	45.7	8	40.0	20	100.0	28	56.0	165	47.1
40–44	56	40.0	53	35.3	109	37.6	7	35.0	4	20.0	11	27.5	120	36.4
45–49	44	33.8	36	25.7	80	30.8	4	20.0	4	26.7	8	26.7	88	29.3
50–54	50	45.5	20	16.7	70	30.4	0	0	4	40.0	4	20.0	74	29.6
55–59	21	23.3	16	16.3	37	19.5	1	14.3	0	0	1	7.7	38	19.0
60–64	37	52.9	6	6.7	43	25.3	2	40.0	0	0	2	22.2	45	25.0
65–69	18	30.0	8	11.4	26	20.0	0	0	0	0	0	0	26	18.6
70–74	18	45.0	9	18.0	27	30.0	0	0	0	0	0	0	27	30.0
75 and over	11	36.7	1	2.0	12	15.0	0	0	1	45.4	1	25.0	13	14.4
Unknown	16		5		21		2		0		2		23	
Average age	40.5		30.5		34.5		30.5		26.0		26.5		32.7	

NATIVITY.

Since Cincinnati, situated on the Mason-Dixon line, is definitely a border city, and as a result includes among its residents a large number who were born in other states, it was thought that examination of suicidal activity from the point of view of nativity might be of interest. In the total group of those whose nativity could be determined, the incidence of suicidal attempts among those born elsewhere than in Ohio was more than twice of native Ohioans. The white male figures show no significant discrepancy from the point of view of this factor. In the other groups, however, the variation is quite marked.

MARITAL STATUS.

In dividing this series of cases into groups according to marital status, those whose status was listed as separated were included

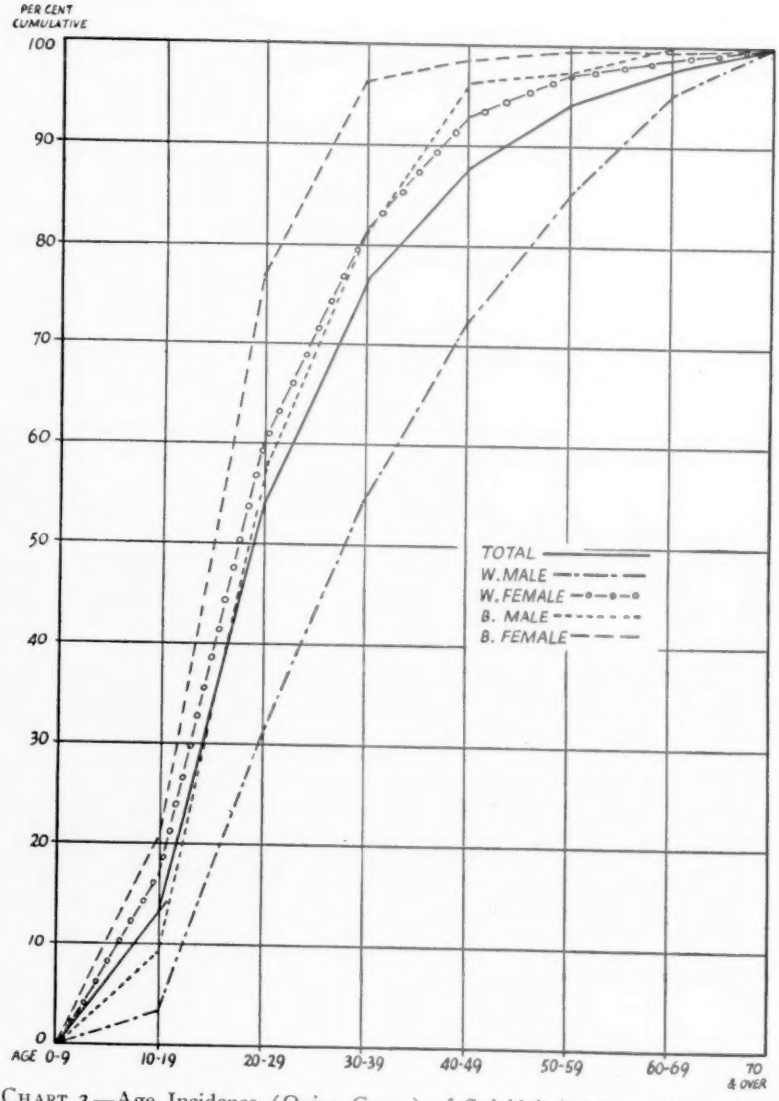

CHART 3.—Age Incidence (Ogive Curve) of Suicidal Attempts, Per 10,000 Population (Jan. 1, 1927, to Dec. 31, 1936).

with the divorced cases. This was done so as to permit per capita representation, since the available data concerning the population of the city was classified in this manner.

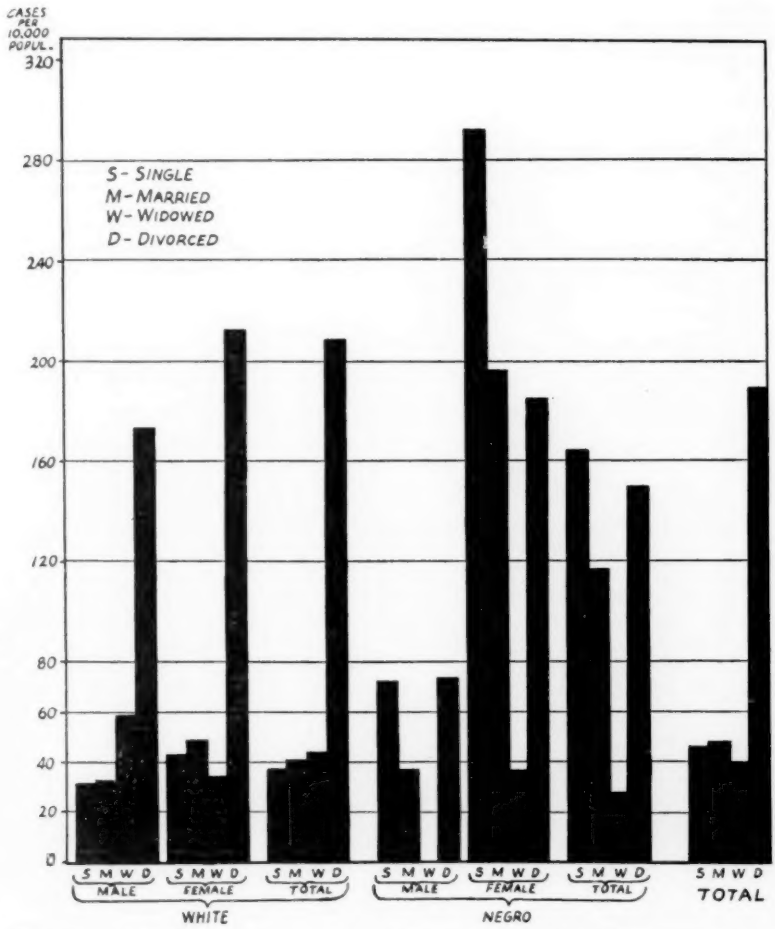

CHART 4.—Marital Status of Cases, Per 10,000 Population, According to Color and Sex (Jan. 1 1927, to Dec. 31, 1936).

It will be noted (Chart 4) that among the white males, the incidence among the single and married cases was about the same (the single population figures for the city included only individuals over 15 years of age). In the white female group, there existed a

moderate predominance of married over single cases. This predominance was reversed among both the male and female negroes. The suicidal activity among the divorced cases was uniformly greater than in any of the other three marital states. It is interesting to note that though the incidence among widowed white males was quite high, the other three groups associated suicidal attempts with widowhood much less frequently than with the single, married or divorced states.

Alcoholism.

Of the total cases, definite statement regarding whether or not the patient was intoxicated was recorded in only 270 instances, in all of which some degree of acute alcoholism was present. It is probable that this figure is too low. It indicates however that at least 14.8% of the total cases were in some stage of acute alcoholism at the time that self-destruction was tried. Men showed a higher percentage of alcoholism than women, and whites more than negroes.

Occupation.

Unfortunately, information regarding occupation was not available on more than half the cases included in this survey; and our classification does not correspond to that in the city census statistics. Consequently, per capita figures cannot be given; though they undoubtedly would be much more significant than the crude totals in our records. In these, only the patient's usual work was taken into account; and whether or not he was employed at the time of the suicidal attempt was not considered relevant. Women occupied in personal services and as housewives contributed most heavily to the female group; whereas the skilled trades and common labor were most prolific for the men.

Religion.

When the distribution of cases according to religion is examined, it is seen that among the negroes only the Protestant group included a sufficient number to be of significance. Among the whites, the incidence was definitely highest in the Protestants. Though Protestant females showed a definite preponderance over Protestant males, the comparative incidence in the two Catholic sexes was the same; and among the Jews, this similarity held also (Chart 5). It should

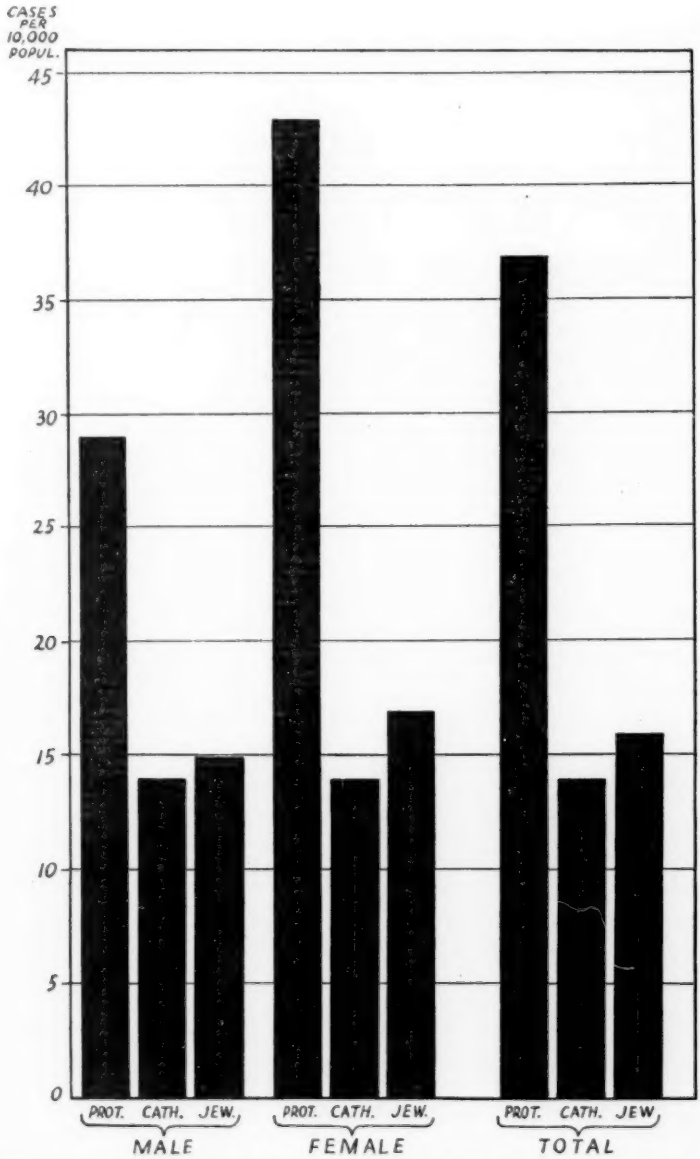

CHART 5.—White Cases, Per 10,000 Population, According to Religion (Jan. 1, 1927, to Dec. 31, 1936).

be noted, however, that there were probably not enough Catholic and certainly insufficient Jewish cases to permit a final conclusion in this connection. When attempting a comparison of the data having to do with religion, one fact must be kept in mind. Of the three major religious groups, the Jewish population of Cincinnati is least likely to make use of the General Hospital, even in emergency situations. Consequently, it probably is safe to assume that the incidence of suicidal attempts among Jews was greater than would appear from the data included in this report; and that the lowest incidence definitely was to be found among Catholics.

Methods.

Ingestion of poison was generally the most popular method of attempting suicide, with the females—and especially the negro females—selecting this means particularly frequently (Table 3).

TABLE 3.

Distribution of Cases, per 10,000 Population, According to Method of Suicidal Attempt.

(January 1, 1927, to December 31, 1936.)

Method.	White.						Negro.							
	Male.		Female.		Total.		Male.		Female.		Total.		Total.	
	No. cases.	Per 10,000 popul.	No. cases.	Per 10,000 popul.	No. cases.	Per 10,000 popul.	No. cases.	Per 10,000 popul.	No. cases.	Per 10,000 popul.	No. cases.	Per 10,000 popul.	No. cases.	Per 10,000 popul.
Poison	286	15.1	711	33.9	997	24.9	46	20.0	336	137.1	382	81.3	1379	30.6
Fire-arms	92	4.8	25	1.2	117	2.9	6	2.6	0	0	6	1.3	123	2.7
Asphyxiation	65	3.4	43	3.1	108	2.7	4	1.7	5	2.0	9	1.9	117	2.6
Cutting	69	3.6	28	1.3	97	2.4	5	2.2	0	0	5	1.1	102	2.3
Leaping	6	0.3	11	0.5	17	0.4	8	3.5	13	5.3	21	4.5	38	0.8
Drowning	15	0.7	16	0.8	31	0.8	0	0	2	0.8	2	0.4	33	0.7
Hanging	23	1.2	4	0.2	27	0.7	2	0.9	0	0	2	0.4	29	0.6
Other	7		6		13		4		0		4		17	
Unknown	14		4		18		1		2		3		21	

Among the white males, following poison in the order of frequency were the use of fire-arms, cutting and stabbing, asphyxiation, hanging, drowning and leaping from high places. The white females relied chiefly on poison, with asphyxiation, cutting and stabbing, fire-arms, drowning, leaping and hanging utilized with diminishing frequency. The number of poison cases is significant among the negro males; but the other methods were utilized by

too few cases to permit comparison. Among the negro females, poison was used almost exclusively; though it will be noted that this group was more inclined to leap from high places than were any of the others, and that asphyxiation and drowning were selected by a few. In general, the males used fire-arms, cutting, and hanging—the more violent procedures—oftener than did the females; while asphyxiation, drowning, and for the whites leaping showed about the same incidence in the two sexes.

Included under *other* methods were such procedures as self-ignition, delivering crushing blows to the head, throwing self in front of moving vehicle, ingestion of crushed glass, ingestion of solid object, and electrocution.

TABLE 4.

DISTRIBUTION OF FIREARMS CASES (WHITE) ACCORDING TO REGION OF BODY WOUNDED.

(January 1, 1927, to December 31, 1936.)

Region.	White.					
	Male.		Female.		Total.	
	No. cases.	Per cent.	No. cases.	Per cent.	No. cases.	Per cent.
Head.....	45	63.4	5	22.7	50	53.8
Chest.....	19	26.8	15	68.2	34	36.5
Abdomen.....	7	9.8	2	9.1	9	9.7
Unknown.....	21		3		24	

The great variety of noxious substances ingested indicates that practically any substance that is available might occasionally be used by a suicide-minded individual. For the total group bichloride of mercury, iodine and lysol were the most often selected, with potassium permanganate, representatives of the barbiturate group and various cleaning fluids next most common. With the white males, bichloride of mercury was first, and iodine a moderately frequent second. The white females also use bichloride of mercury oftenest, followed by lysol and then iodine. Lysol and iodine appear most frequently in the negro male list; while the negro females used iodine and lysol preponderantly.

In the commoner suicide methods which involved localized self-mutilation, note was taken of the part of the body wounded. It is of considerable interest that not a single negro female in this

entire series used either fire-arms or cutting weapons on herself, and that very few negro males used these methods. (Table 3).

Among the white shooting cases, the difference in the relative frequency with which the two sexes shot themselves in the head or chest seems to offer material for conjecture regarding the psychodynamics involved in the selection of the region wounded (Table 4). The males showed a definite preference for the head; while the females most frequently turned their aggression against their chests. In the cutting and stabbing cases, the two white sexes behaved alike. The neck and extremities carried the brunt of the attack for both males and females.

Mental Disease.

There has existed at the Cincinnati General Hospital for many years a rule which forbids the discharge of any suicide case unless a representative of the psychiatric staff has seen the case and approves. All such cases which are considered psychotic are transferred to the psychiatric wards. Consequently, the determination of what percentage of the cases in this series were psychotic was not difficult (Table 5). Because of the inadequacy of the records of the earlier years, however, satisfactory diagnostic classification was not possible.

TABLE 5.

Percentage of Cases Psychotic at Time of Suicidal Attempt, According to Color and Sex.

(January 1, 1927, to December 31, 1936.)

Psychosis.	White.						Negro.							
	Male.		Female.		Total.		Male.		Female.		Total.		Total.	
	No. cases.	Per cent.	No. cases.	Per cent.	No. cases.	Per cent.	No. cases.	Per cent.	No. cases.	Per cent.	No. cases.	Per cent.	No. cases.	Per cent.
Yes	57	9.9	54	6.75	111	8.1	4	5.4	6	1.7	10	2.3	121	6.7
No	517	90.1	746	93.25	1263	91.9	70	94.6	351	98.3	421	97.7	1684	93.3
Unknown	3		6		9		2		1		3		12	

Of the total group, 6.7 per cent were definitely psychotic. The highest percentage of psychotic cases was found among the white males, the lowest among the negro females.

Causes.

The causes listed were those given for the most part by the patients, and in a few cases by the families or friends, and it is striking that of the 1817 cases in this study cause unknown was reported in 1128. The white males attempted suicide most frequently for domestic reasons, and second as an expression of psychotic development. Unemployment and financial difficulties were also frequently occurring causes in this group. Domestic difficulties were outstandingly the most commonly admitted precipitants in the white female group, followed by the presence of psychoses, maladjustments having to do with love, financial stress and physical illness. For the negro females, domestic and love irritants were most numerous.

Residence.

The Cincinnati Public Health Federation has divided the city into census tracts for purposes of study of problems of health, economic factors, delinquency, etc. With this classification as a basis, an attempt was made to determine whether different parts of the city exhibited different degrees of suicidal activity. For the purposes of this preliminary report, it will suffice to say that the tracts that are most congested as to population and in which the economic status and educational level are lowest show the highest incidence of suicidal attempts. The tracts in which the negro population tends to congregate contribute heavily to this series; and this marked suicidal activity among negroes was found to be present even in those sections where their living conditions were more acceptable.

Despite the fact that representatives of that part of the population which lives under more favorable conditions are less likely to be brought to the Cincinnati General Hospital than are the less well situated individuals, this factor alone is not sufficiently exclusive to explain the residential discrepancies noted.

Deaths.

The data on the per capita incidence of deaths in this series is probably the least accurate of all the material herein presented

(Table 6), from the point of view of being representative of the city as a whole. This is to be expected since relatively few of those individuals who die on the outside as the result of their suicidal attempts were brought to the hospital; and since among those who did reach the hospital, the suicidal factor was not recognizable or known in a large number. Nevertheless, the higher incidence of deaths among the white males over the white females, particularly

TABLE 6.

NUMBER OF DEATHS, PER 10,000 POPULATION.

(January 1, 1927, to December 31, 1936.)

Died.	White.						Negro.							
	Male.		Female.		Total.		Male.		Female.		Total.		Total.	
	No. cases.	Per 10,000 popul.	No. cases.	Per 10,000 popul.	No. cases.	Per 10,000 popul.	No. cases.	Per 10,000 popul.	No. cases.	Per 10,000 popul.	No. cases.	Per 10,000 popul.	No. cases.	Per 10,000 popul.
Yes	143	7.5	81	3.9	224	5.6	10	4.3	20	8.2	30	6.4	254	5.6
No	420	22.1	682	32.5	1102	27.5	63	27.4	332	135.5	395	84.0	1497	3.3
Unknown	14		43		57		3		6		9		66	

TABLE 7.

PERCENTAGE OF SUCCESSFUL SUICIDAL ATTEMPTS, ACCORDING TO COLOR AND SEX.

(January 1, 1927, to December 31, 1936.)

Died.	White.						Negro.							
	Male.		Female.		Total.		Male.		Female.		Total.		Total.	
	No. cases.	Per cent.	No. cases.	Per cent.	No. cases.	Per cent.	No. cases.	Per cent.	No. cases.	Per cent.	No. cases.	Per cent.	No. cases.	Per cent.
Yes	143	25.4	81	10.6	224	16.9	10	13.7	20	5.7	30	7.1	254	14.5
No	420	74.6	682	89.4	1102	83.1	63	86.3	332	94.3	395	92.9	1497	85.5
Unknown	14		43		57		3		6		9		66	

in the light of the greater number of attempts among the females, seems significant. This discrepancy appears even more marked when one considers that males are more likely to use the violent and quickly effective methods of suicide than are the females; so that deaths occurring outside the hospital probably are more often male than female, with the result that the death totals in this survey fall farther short of the actual figures among the males than the females.

A consideration of the percentage of deaths in this series probably yields a more reliable picture of the situation (Table 7). The

cases listed as unknown were those who left the hospital contrary to the recommendations of the physicians, and concerning whom the final physical result of the attempt was not known. Of the remaining cases, 14.5 per cent proved fatal. The sex and color factors are interesting, and apparently significant. The males—particularly the white males—were much more likely to be successful in their suicidal attempts; while the negro females, among whom suicidal activity was so great, were least apt in the pursuit of death.

Comment.

This is a preliminary report. Only the gross material has been presented, in most instances in terms of per capita distribution. No real attempt has been made to interpret the findings. The breaking down of these figures, more complete statistical analysis, and attempts at correlation are procedures that we hope to be able to undertake. These steps will be necessary in order to complete the preliminaries to a more intensive and directed plan of attack on the problem of suicide and its ramifications.

PERCENTAL RELATIONSHIP BETWEEN BLOOD SUGAR AND SPINAL FLUID SUGAR IN MENTAL DISEASE.*

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The presence of a reducing substance in the cerebrospinal fluid was demonstrated first by Deschamps and Bussy [1] in 1852. Nawratzki,[2] in 1857, proved that this reducing substance was glucose and estimated the normal amount as 46 mgms. per 100 c.c. Since that time the amount of spinal fluid sugar normally present has been investigated by numerous observers, Mestrezat ; [3, 4, 5] Foster ; [6] Kelly ; [7] Thalhimer and Updegraff ; [8] Moates and Keegan ; [9] Levinson ; [10] Alpers, Campbell and Wilcox ; [11] Wilcox, Lyttle and Hearn ; [12] Giordano ; [13] Goodwin and Shelley ; [14] Schloss and Schroeder.[15] These investigators have reported very variable results ranging from 40 mgms. per 100 c.c. to 139 mgms. per 100 c.c. and in spite of a rather voluminous literature, there is even today little unanimity of opinion.

The variability of the findings reported has been ascribed to several factors, the technique of estimating the sugar present, failure to regulate food intake before the collection of specimens, and the improper selection and insufficient numbers of normal controls. Undoubtedly these factors are important. Stevenson,[16] who compared the results obtained by two different methods on identical specimens of spinal fluid, found that one technique gave consistently higher results. Polonovski and Duhot,[17] Goodwin and Shelley,[14] Wilcox and Lyttle,[18] Thalhimer and Updegraff [8] showed that the sugar varied with the amount present in the blood and that values were changed by the ingestion of food. Schube [19] em-

* Read at the ninety-third annual meeting of The American Psychiatric Association, Pittsburgh, Pa., May 10-14, 1937.

phasized the need of a proper selection of normals, and drew attention to the lack of care regarding this factor in earlier investigations.

In our opinion there is another factor which has not received sufficient consideration, namely the relationship between the amount of sugar in the blood and that in the cerebrospinal fluid. Practically all the workers in this field are in accord in ascribing the source of the spinal fluid sugar to that present in the blood. However the amount of blood sugar is a known variable factor, fasting values ranging from 80 to 120 mgms. per 100 c.c. being regarded as normal. If there is some definite correlation between the blood and spinal fluid sugar, then there would be a correspondingly wide range of spinal fluid sugar values which could be considered normal. The ratio existing between the blood and spinal fluid sugar would be more important than the actual amount of sugar in the spinal fluid. Thalhimer and Updegraff [8] in six normal patients found the percental relationship between the spinal fluid and the blood sugar to be very constant and reported an average of 46 per cent. Wilcox and Lyttle [18] state that spinal fluid sugar, with some variation, is 50 per cent of blood sugar. Goodwin and Shelley [14] in 16 patients found an average percental relationship of 53 per cent with a range from 45-65 per cent. Schube [19] in 197 cases of neurosyphilis found a mean ratio between blood sugar and spinal fluid sugar 1.42. Levinson,[20] on the other hand, has stated that there is no relationship between the blood and spinal fluid sugar.

Experimental Procedure.

The material which forms the basis for this study was collected almost entirely from patients resident at the Ontario Hospital at London. All patients admitted to the institution, who present any clinical signs or symptoms indicating possible organic neurological disorder, receive a lumbar spinal puncture. The spinal fluid is secured in the morning before breakfast, approximately 16 hours after the last meal, and is collected in two tubes. One of the tubes contains a preservative and is used for sugar estimation, the other is a dry sterile tube and this portion of the specimen is used for other routine tests. A sample of blood for the estimation of blood sugar is taken at the same time the spinal fluid is obtained.

The use of a preservative in the specimen of spinal fluid used for sugar estimation probably requires some explanation. It has been stated, Greenfield and Carmichael,[21] that when spinal fluid is removed from the body and kept under sterile conditions, the sugar concentration will remain unaltered indefinitely. Lowy [22] and Stevenson [23] found no decrease in spinal fluid sugar in specimens that had stood at room temperature for two days. Lewis and Schube [24] found no appreciable decrease in sugar in spinal fluids stored at ice box temperature for 10 and 21 days respectively. However it is a well known fact that fluids contaminated by organisms which utilize the carbohydrate, do show a rapid decrease in the amount of sugar present. As it was impossible to store the specimens at ice box temperature until the examination was performed and to rule out the possibility of any stray contaminating organisms which might influence the sugar concentration, we considered it advisable to use a preservative. The tube used in collecting the specimen was that provided by the Ontario Department of Health for the submission of blood sugars. It contains 55 mgms. of a powder consisting of one part of thymol and 10 parts of sodium fluoride and is sufficient to preserve 5 c.c. of fluid.

The method used for the determination of sugar in the blood and spinal fluid is an application of the procedure of Folin and Wu.[25] The proteins are precipitated by 10 per cent sodium tungstate and 2/3 N sulphuric acid. The solution is filtered and the glucose in the clear filtrate is reduced with an alkaline copper solution and the resultant cuprous oxide is dissolved in a phosphomolybdic acid solution. The blue color developed is then compared with that produced by a standard glucose solution in a Klett biocolorimeter. The results are reported to the nearest five milligrams.

The total number of specimens included in this study is 590, and the patients studied fall into several groups. First a control series of patients was studied to determine the average percental relationship between the blood and spinal fluid sugar. The mental conditions included are schizophrenia and manic depressive psychosis as examples of the psychogenic group and general paresis as an example of the organic group.

Correlation between Blood and Spinal Fluid Sugar.

In Table I is summarized the detail of the blood and spinal fluid findings in the entire group of 590 specimens.

These findings show some very interesting results. It will be noted that where the total number in any one group, whether showing the range of spinal fluid sugar for a constant blood sugar, or the range of blood sugar associated with a constant spinal fluid sugar, is sufficiently large, a fairly normal probability curve is obtained. The calculation of the arithmetical means depicted in the

TABLE I.

Correlation Chart of Blood Sugar and Cerebrospinal Fluid Sugar.

Cerebrospinal fluid sugar, mgms. per 100 c.c.	Blood sugar, mgms. per 100 c.c.											
	60 69	70 79	80 89	90 99	100 109	110 119	120 129	130 139	140 149	150 159	Total.	Mean blood sugar
30	..	..	1	..	..	..	..	..	..	..	1	85
35	1	..	2	..	..	..	..	..	..	..	3	78
40	..	3	6	5	2	..	1	..	..	..	17	91
45	..	4	17	10	2	4	..	..	..	..	43	92
50	1	6	46	71	21	6	2	..	..	..	153	94
55	..	5	20	42	25	5	2	2	1	..	102	98
60	..	4	13	49	52	18	7	3	..	..	146	102
65	..	..	2	10	22	9	5	1	1	..	50	107
70	..	..	2	5	11	13	9	..	1	..	41	111
75	..	..	..	..	2	3	3	1	..	..	9	118
80	..	..	..	..	2	3	6	1	2	..	14	123
85	..	..	..	..	..	1	..	3	..	1	5	135
90	..	..	..	..	..	1	2	..	..	1	4	130
95	..	..	..	..	..	..	..	1	..	..	1	135
110	..	..	..	..	..	..	1	..	..	..	1	125
Total	2	22	109	198	139	63	38	12	5	2	590	
Mean C.S.F. sugar.	42	51	51	54	59	63	69	72	70	87		

extreme lower and right hand columns shows the mean average values associated with a constant blood or spinal fluid sugar. An examination of these mean values shows a very definite correlation between the blood and spinal fluid sugar, a rise in one value being coincident with a rise in the other.

The mechanism involved in the interchange of substances from the blood to the spinal fluid has been a subject of much debate and is undoubtedly a subject of considerable complexity. It involves not only the so called hæmato-encephalic barrier, including the choroid plexus, ependyma, leptomeninges, cerebrospinal vessels and neuroglia, but also a consideration of the physico-chemical conditions existing in the blood and the spinal fluid. Our knowledge

of the factors which influence the process is somewhat scanty. The findings elicited above however suggest that as far as sugar is concerned, some definite limiting mechanism is active. We feel that the absolute amount of spinal fluid sugar alone is insufficient for comparative purposes and in the various groups studied have reported our findings in terms of the percental relationship existing between the fasting blood and spinal fluid sugar.

Control Series.

This series comprises 46 specimens. We do not feel that this group of patients could be described as normal because the majority of them were suffering from some physical disability at the time the specimen was secured. We have however excluded from the

TABLE II.

Control Series—46 Specimens.

BLOOD SUGAR, CEREBROSPINAL FLUID SUGAR AND PERCENTAL RELATIONSHIP.

	Blood sugar in mgms. per 100 c.c.	C.S.F. sugar in mgms. per 100 c.c.	Percental relationship between C.S.F. and blood sugar.
Range	80–140	50–95	46–77
Mean	104	64	62
Standard deviation	...	...	7.0
Probable error of mean	...	...	4.6

group any individuals who showed any evidence of abnormality of sugar metabolism, or signs of organic neurological disease; none of them showed any psychotic disturbance. The majority of the patients were cases of vascular lues, drug addiction and alcoholism without psychosis.

In Table II is summarized the range and mean value of the blood sugar, spinal fluid sugar, and the percental relationship. It will be noted that although the mean value of the actual amount of sugar present in the spinal fluid approximates closely the mean value of the percental relationship, yet as expected the range of the percental relationships is much less than the range of the actual amount of sugar present.

In Table III is shown the distribution of the range of the percental relationships, and it is noteworthy that 35 out of the 46 patients, approximately 76 per cent, fall within the range of 62 ± 7.

TABLE III.

CONTROL SERIES, 46 SPECIMENS.

SHOWING THE RANGE OF PERCENTAL RELATIONSHIP.

Mean 62; S. D. 7.0.

Percental relationship	45–49	50–54	55–59	60–64	65–69	70–74	75–79
Number of specimens	1	4	9	15	11	3	3

SCHIZOPHRENIA.

This group includes a total of 94 patients, divided into two groups:

1. A paranoid group, including 42 patients;
2. A hebephrenic and catatonic group of 52 patients.

The percental relationships obtained are given in Table IV.

TABLE IV.

SCHIZOPHRENIA.

PERCENTAL RELATIONSHIP BETWEEN BLOOD AND CEREBROSPINAL FLUID SUGAR.

	Paranoid group, 42 specimens.	Catatonic and hebephrenic group, 52 specimens.	Entire group, 94 specimens.
Range	42–78	42–82	42–82
Mean	62	62	62
Standard deviation	8.0	8.0	8.0
Probable error	5.3	5.3	5.3

These findings show the mean percental relationship to be 62 with a standard deviation of 8 in both of these groups and this is practically the same value as that obtained in the control series. It is apparent that this group of patients shows no abnormality in the relationship between the spinal fluid sugar and the blood sugar, and this finding agrees with Weston [26] and Alpers, Campbell and Prentiss [11] who found the actual amount of spinal fluid sugar to be within normal range. Table V, showing the range of distribution of the percental relationship, emphasizes the normality of the hæmato-encephalic barrier, 66 cases out of 94, approximately 70 per cent, of the patients being within the range of 62 ± 7.

TABLE V.

SCHIZOPHRENIA, 94 SPECIMENS.

SHOWING THE RANGE OF PERCENTAL RELATIONSHIP CONTRASTED WITH CONTROL SERIES

Percental relationship	40–44	45–49	50–54	55–59	60–64	65–69	70–74	75–79	80–84
Control series, 46 specimens	..	1	4	9	15	11	3	3	..
Schizophrenia, catatonic and simpler type, 52 specimens	1	2	3	11	14	14	4	2	1
Schizophrenia, catatonic type, 42 specimens	1	1	4	10	9	8	7	2	..

MANIC DEPRESSIVE PSYCHOSIS.

This group includes a comparatively small number of cases, 46 in all. They are divided into two groups:

1. 28 patients in the manic phase, and
2. 18 patients in the depressed phase.

The mean percental relationships of the blood and spinal fluid sugar are seen in Table VI.

TABLE VI.

MANIC DEPRESSIVE PSYCHOSIS.

PERCENTAL RELATIONSHIP BETWEEN BLOOD AND CEREBROSPINAL FLUID SUGAR.

	Manic-depressive depressed phase, 18 specimens.	Manic-depressive manic phase, 28 specimens.	Entire group, 46 specimens.
Range	55–87	47–92	47–92
Mean	66	65	66
Standard deviation	7	10	9
Probable error	4.8	6.6	6.0

These findings show no significant change from the control series, although the mean percental value obtained in both phases of this condition is slightly higher. The standard deviation in the manic phase is quite high indicating a fairly wide range of values, and this is demonstrated clearly in Table VII which shows the range of the percental values contrasted with the control series.

TABLE VII.

MANIC DEPRESSIVE PSYCHOSIS.

SHOWING THE RANGE OF PERCENTAL RELATIONSHIP CONTRASTED WITH CONTROL SERIES

Percental relationship	45–49	50–54	55–59	60–64	65–69	70–74	75–79	80–84	85–89	90–94
Control series, 46 specimens	1	4	9	15	11	3	3	..	..	..
Manic depressive depressed phase, 185 specimens	..	..	2	5	5	5	..	..	1	..
Manic depressive manic phase, 28 specimens	1	1	5	8	6	2	1	2	1	1

Here it can be seen that although approximately 70 per cent of the entire group are within a range of 62 ± 7, that in the manic phase particularly there is a much wider range of percental values, and that individual cases in this group do show significantly abnormal percental values. These cases apparently have an increased permeability of the hæmato-encephalic barrier for sugar, most of the abnormalities being above the mean of the control series.

General Paresis.

Considerable work has been done on the spinal fluid sugar in general paresis. Some observers, Briand and Roquier,[27] Becker,[28] Rieger and Solomon,[29] report normal findings; others, Kelly,[7] Polonovski and Duhot,[17] report decreased values. Kelly states that in untreated cases the spinal fluid sugar is definitely low and that it returns to normal following treatment. Alpers, Campbell and Prentiss [11] found a slight decrease in sugar values following treatment. Craig [31] and Solomon [32] feel that neurosyphilis in any form has no effect on the spinal fluid sugar. Schube,[19] in a recent article, found only 50 per cent of untreated paretics to have a normal spinal sugar—blood sugar ratio, and that the majority of abnormalities were above the normal ratio.

Our findings are based on the examination of 404 specimens. These specimens have been divided into several groups:

1. Admission specimens from patients who had no systematic treatment before admission;

2. Specimens from treated patients who were clinically not improved; and

3. Specimens from treated patients who showed clinical improvement.

The diagnosis in all of the above cases was made by a consideration of the history, the clinical signs and symptoms and the routine serological tests. All of them showed typical serological findings including a positive blood and spinal fluid Wassermann, and a positive colloidal gold reaction. Cerebrospinal syphilitics with psychosis and tabes dorsalis were excluded from the group. Treatment in the majority of cases consisted of a combination of malarial therapy followed by intensive arsenic therapy.

Our results showing the percental relationship between spinal fluid sugar and blood sugar are summarized in Table VIII.

TABLE VIII.

GENERAL PARESIS.

PERCENTAL RELATIONSHIP BETWEEN BLOOD AND CEREBROSPINAL FLUID SUGAR.

	Admission specimens, 81 specimens.	Treated cases clinically not improved, 161 specimens.	Treated cases clinically improved, 162 specimens.	Entire group, 404 specimens.
Range	33–71	41–82	33–86	33–86
Mean	54	60	58	58
Standard deviation	8	7	8	8
Probable error	5.3	5.0	5.4	5.4

The above findings show the mean percental values for the admission cases to be 54 ± 8 per cent, a definitely lower value than that obtained in the control series. The treatment cases, regardless of the clinical improvement show an increased mean percental relationship over the admission specimens but still below the mean of the control group.

TABLE IX.

GENERAL PARESIS.

SHOWING THE RANGE OF PERCENTAL RELATIONSHIP CONTRASTED WITH CONTROL SERIES.

Percental relationship	30–34	35–39	40–44	45–49	50–54	55–59	60–64	65–69	70–74	75–79	80–84	85–89
Control series, 46 specimens	..	..	..	1	4	9	15	11	3	3	..	..
General paresis admission, 81 specimens	1	1	6	6	26	20	12	7	2	..	..	..
General paresis clinically not improved, 161 specimens	..	..	3	4	27	44	48	19	6	7	3	..
General paresis clinically improved, 162 specimens	..	1	7	7	27	49	40	19	8	2	1	1

The above findings showing the range of distribution of the percental values show that in the treated cases, although there is a wide range of values, at least 68 per cent of the values fall within a range of 62 ± 7. The admission cases however show only 48 per cent of cases falling within this range, and 49 per cent of the entire group fall into a lower category with only two cases showing an increase above this range. These findings indicate that a large percentage of untreated paretics show low percental values, and that following treatment the percental values approach more nearly those of the control series.

SUMMARY.

A study is presented of the relationship existing between simultaneous fasting spinal fluid sugar and blood sugar. A definite correlation between the blood sugar and spinal fluid sugar is indicated. In a group of 46 control patients the mean percental relationship was found to be 62 with a standard deviation of 7.

In schizophrenia no deviation from the control series was encountered. In manic depressive psychosis the mean percental value for the entire group was within the normal range but there were marked individual variations particularly in patients in the manic phase. In general paresis, admission specimens showed low mean percental values, which tended to approximate the control series following treatment.

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DISCUSSION.

DR. J. F. BATEMAN (Columbus, Ohio).—This paper brings up some rather important questions. In the first place, the findings of the blood sugar and the ratio of the blood sugar to the cerebrospinal fluid sugar in the cases of schizophrenia are more or less what might be expected.

This bears out well the biochemical researches in schizophrenia in so far as there are few positive findings which we might have from a psychological point of view when the disease is diagnosed, and few findings which are of physiological consequence.

Now, the range in manic-depressive psychosis, as Dr. Johns found, might be expected in the manic phase, because in the manic phase the metabolic processes are greatly increased. There is considerable pressure of activity, and sugar metabolism as well as other biochemical products are certainly quite vulnerable during this period of excessive pressure of activity. The storehouse for sugar is called upon not only daily or hourly, but there is a rapid change in a period of five to ten minutes in the sugar metabolism.

The symptomatology and the clinical course of manic-depressive, of course, suggests that in many instances there are certain biochemical and metabolic changes. To me, this paper brings out the important question as to irritative and mechanical lesions within the brain, and their relation to the cerebrospinal fluid sugar.

For example, there are certain structural diseases which invade the cerebrospinal fluid confines in the subarachnoid spaces in meningitis of bacterial origin. These diseases usually have two important findings: One is an increase in cell count as found in acute purulent meningitis, and in tubercular meningitis. Even in very acute syphilitic meningitis we find an increase in cell count and a low sugar—not always in acute syphilitic meningitis, but at least the range is much greater, such findings as low as 15 and as high as 100 which we don't find in the other types.

In the so-called mechanical pressure disturbances of the nervous system, and by those I mean brain tumor, trauma, cerebral vascular accidents, and even meningismus or acute aseptic type of meningitis, in these conditions the cell count is apt to be low and the blood sugar findings are apt to be in the high range of normal, just the opposite of what we find in the other condition.

This question of the mean ratio in dementia paralytica, the question of approaching normal after treatment, is one which seems to warrant considerable discussion.

There is variability, as you well know, in the pathology of dementia paralytica. For instance, in some types where the cell count is rather high, it speaks for the superficiality of the lesion, and in certain types of those groups we find a very rapid recovery in dementia paralytica.

In contrast to that, along with the low cell count we many times find a deep-seated type of lesion. The question arises whether or not these cases in which there was a mean low level were associated with low sugar content, or were they of a high sugar content?

In other words, I might ask that question this way, Dr. Johns: Did you know that there was a greater variation in the mean ratio of those cases of dementia paralytica in whom the cell count was high?

I do not want to be discouraging at all, Dr. Johns, to this type of research; I want to compliment you on your work. But I wish to say that in my studies very little of any physiological or of any biochemical value has come from the study of such diseases as schizophrenia and manic-depressive; that is, little of physiological value has been obtained from studying such diseases which still lie in the psychological field.

DR. SOLOMON KATZENELBOGEN (Baltimore, Md.).—I regret that I did not have the opportunity to read the paper and to examine the data carefully. But the presentation was so clear that I hope I shall be able to discuss it, doing justice to the paper.

The findings in this paper coincide with my own findings in schizophrenia and in other pathological conditions, except that ratio given in paresis, between 33 and 71. I accept the ratio of 71, but the ratio of 33 seems to me very low, unless there are those cases which had such a ratio and presented a very abnormal cerebrospinal fluid that has a considerable number of cells.

I have not seen the data as to the number of cells, and the data was not given. Therefore, I should like to be informed on this point.

The contention of Dr. Johns is that the cerebrospinal fluid sugar should be examined in its relation to the content of sugar in the blood. That is perfectly correct, and I see that he took the precaution of taking into consideration not only the fact that the cerebrospinal fluid sugar should be examined and compared to the amount of sugar in the blood, but he also took the important precaution of puncturing his patients in the fasting state.

The reason why the cerebrospinal fluid sugar, which according to the literature, presents such a wide range is probably because a lack of the precaution to puncture the patient in the fasting state, and the spinal puncture is made at any hour of the day, and if one does not take into consideration that the increase of sugar in the blood which is due to food intake influences the cerebrospinal fluid sugar, one of course obtains data which are not adequate.

I was glad to see that the author took into consideration in his presentation this fact, and therefore his data are certainly reliable.

From the general standpoint I believe, however, that it is not sufficient to consider the content of the sugar in the cerebrospinal fluid only as compared to the content of sugar in the blood, although it is an extremely important factor. There are two other factors, one of which was mentioned in passing by the author, and that is, the function of the hematencephalon barrier, the barrier between the blood and the cerebrospinal fluid.

He was fortunate that in the two types of patients with which he was dealing, in schizophrenia and manic-depressive psychosis—this factor, the function of the barrier between the blood and cerebrospinal fluid, very likely did not play an important rôle.

But if he had to do with cases of meningitis, for instance, or with cases in which there is a definite organic condition, a vascular condition of the

cerebrum and spinal nervous system, he would have had to take into consideration the function of the hematencephalon barrier, considering the well known fact that in these conditions, and in all conditions in which there is meningeal involvement, the barrier is altered permanently, and there is always an increased passage of blood into the cerebrospinal fluid.

A factor which should be considered in evaluating the content of sugar in the cerebrospinal fluid is what is going on within the cerebrospinal cavity itself; that is, the metabolism within the cerebrospinal cavity. One knows very well from experimental studies and observations that pleocytosis very definitely influences the content of sugar in the cerebrospinal fluid, and bacterias do the same.

One finds in cases in which meningitis is very pronounced, whether it is of inflammatory origin, or whether it is aseptic meningitis, as in my own cases of experimental therapeutic meningitis, low values of sugar in the cerebrospinal fluid, and in some cases it disappears entirely. It is entirely related to the degree of the pleocytosis. Therefore, the factor of what is going on within the cerebrospinal cavity should also be seriously considered.

I was glad to see that the author was insistent on the fact that the cerebrospinal fluid sugar should not have an absolute value *per se*, but it should be primarily considered in the relation of the content of blood sugar, but the two other factors I mentioned should also be taken into consideration.

DR. JOHNS.—The one question that has arisen is the relationship of the pleocytosis to the depressed sugar values. I am sorry I cannot answer it. I have the findings, but did not notice them particularly, so I will look them up and be glad to let you know later.

A CLINICAL NOTE ON A SELF-FELLATOR.

By EUGEN KAHN, M. D., and ERNEST G. LION, M. D.*

Upon completion of a second jail sentence of 60 days for indecent assault, a sexual pervert was referred to us by a social agency for observation and treatment. Among his perverse practices were pedophilia, cunnilinguism, homosexual acts (fellatio, sodomy and mutual masturbation), exhibitionism, transvestism, fetishism, algolagnia, voyeurism and peeping.†

In addition he possessed an auto-erotic habit which to our knowledge has not hitherto been reported in the literature. This practice, which we call self-irrumation or self-fellatio, is the only aspect of our clinical investigation that we shall discuss after briefly indicating the background of our patient.

CASE REPORT.

Clinical History.—C. B. L., hospital number 1732, male, 33, white, American, clerk, was admitted to our wards on December 3, 1937. His father was, and his mother is, very religious. His father died at the age of 59 in 1933 when the patient was 29 years old. The patient preferred his father to other members of the family. His mother, who at present is 61 years of age, is living and well. The patient is the third oldest of eight children. All the children, except the patient, are strongly devoted to the Nazarene religion. Several of the sisters have become missionaries, and one brother is studying to become a minister. As far as it could be ascertained, there was no report of sexual psychopathy in other members of the family.

Past Personal History.—Patient was born on August 8, 1904, in Connecticut. He had a normal birth. His early development was unremarkable with the exception of difficulty in weaning. He was brought up in a strict religious environment. The patient finished grammar school at the age of 13. He was in the army for 16 months starting at the age of 19. His chosen vocation was that of a clerk. Mathematics was one of his chief hobbies. He occasionally drank alcoholic beverages to the point of intoxication. The patient's general health has been good. He courted and proposed to his first wife by mail without having previously met her. This marriage, which

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† We shall not discuss these aspects of his anamnesis as they did not contribute anything new.

occurred when the patient was 20 and his bride 15, was never consummated. He obtained a divorce and married three years later a girl who was 20 years of age. There were three sons by the second marriage, ages nine, seven, and two. He has shown very little interest in them.

Personality.—During childhood he was finicky about food, sucked his thumb and bit his nails. He was timid, selfish and had temper tantrums. He was bookish and especially enjoyed poetry. He showed tendencies toward marked cleanliness and orderliness.

In adulthood he has shown that he has acquired a fair knowledge of general information and current events. His output of energy has not been very good nor well directed. In temperament he has been cool and irritable. His characterological traits have been passivity, submissiveness, self-sufficiency, introversion and egocentricity.

Mental Examination.—In attitude and general behavior he was rather feminine. His posture, gait and mannerisms were somewhat feminine. The patient's chief preoccupation was with sex. He was emotionally cool. There were no evidences of sensorial-intellectual defects.

Psychometric investigations showed that he possessed average intelligence. Occupational interest studies indicated preference for feminine pursuits while the Terman-Miles Attitude-Interest Analysis Test, a masculinity-femininity test, showed a feminine profile.

Physical Examination.—He is 5 feet 2 inches tall. He is somewhat thin with rather wide hips. He appears younger than stated age. His skin is of fine texture. There is a sparsity of hair on his face, chest and abdomen. His axillary hair is shaven. There is a female pattern of distribution of his pubic hair. The only notable finding in connection with his genital organs is a phimosis. His gag reflex is very sluggish. The remainder of his physical examination, including neurological, was within average limits.

Laboratory studies of the blood, urine and spinal fluids were not noteworthy.

Self-Irrumation.—When the patient was 14 years of age, a cripple boy with whom he practiced mutual masturbation, suggested irrumation to him. He refused. Four years later, after having gratified his sexual urges in various ways, he remembered this suggestion. However, he lacked the courage to approach any boy for such a relationship. In this setting the thought of self-irrumation occurred to him in May, 1923. Unable to succeed at the start, he kept trying night after night, managing to bend his back more and more until he finally succeeded in August, 1923.

The desire for self-irrumation is ushered in by "a constricting feeling in the throat" whenever he is sexually aroused. While he occasionally practices self-irrumation to relieve sexual tension which has already been aroused, he more often employs it to stimulate sexual excitement in himself.

Sometimes preparatory to the act the patient dresses as a woman, powders his face and uses lipstick. During the act the patient observes himself by means of a mirror, stimulates his anus, feels of his own skin, and has a phantasy that he is a woman. Sometimes additional gratification is received when he performs the act in front of some young boy or girl or his wife, particularly if the spectator is shocked.

The act usually reaches a climax in about 15 minutes when he has a genital ejaculation, tension followed by a relaxation and a soothing feeling in the pharynx, and a voluptuous phantasy of being a woman.

Following the act he feels guilty and has a backache. The next day he has a headache, difficulty in focusing his eyes, avoids people, and has ideas that his associates are aware of his practice.

The act is usually repeated on the average of every fortnight, although he has the urge to do so more frequently.

He has attempted to secure substitute gratification by smoking, or by stimulating his pharynx with a banana, vaginal douche or a broom handle. These have yielded varying degrees of satisfaction.

He experiences his perverse sexual tendencies including his self-irrumation without much resentment, but, on the other hand, with an exhibitionistic delight. He has sometimes during self-irrumation, and occasionally between the acts, indulged in a phantasy of self-impregnation by means of swallowing his semen. He declared that if self-impregnation could be realized, he would become the center of attention, and this would give him tremendous enjoyment.

COMMENT AND CONCLUSION.

We have briefly formulated the problem along clinical lines as that of a cool, rather passive and egocentric young man, with an outspoken tendency toward introversion and self-sufficiency, who from adolescence onward has developed numerous perverse sexual practices. While the history showed no sexual psychopathy in the family tree, his physique suggested some feminine characteristics. Desirous of new ways of sexual gratification, and yet too passive and too shy to request irrumation from other boys, the idea of self-irrumation occurred to him. This new technique first appeased his desire for self-sufficiency, and later on permitted him to have a feeling of uniqueness, and further delight in exhibiting himself in front of his sexual partners. From early time onward inclining toward the position of a black sheep in his over-religious family, he appears to have utilized his sexual perversion as his own method of rebelling against his family and their moral standards.

THE PSYCHIATRIST'S RÔLES WITH HIS PATIENTS.*

By GEORGE S. SPRAGUE, M. D., White Plains, N. Y.

The art of psychotherapy has been practiced since the first time one person attempted to influence the conduct, thought or emotions of another. With the experiencing of successes and failures, and with the sharing of similar experiences which others have had, a body of knowledge has gradually been built up for guidance and management. Some physicians are more and some less expert in their exercise of the psychotherapeutic art, so it is proper to seek the reasons for a greater or a lesser success.

With the first inquiry, we observe that the methods used have been largely a matter of intuition and of feeling. Few can explain how or why they use psychotherapeutic methods with the empirical results of which however they may be quite familiar. Psychiatry is spoken of as being a young science, perhaps because several of its truths have not yet been formulated in a precise terminology. Standards and concepts which are in every-day use still lack the clarity and definiteness which may be attained by stating them in simple words. Perhaps too little detailed attention has been paid by the psychiatrist to the selection of tactics in prescribing psychotherapy, as is used in determining a drug and the changing combinations of drugs when chemotherapy is employed.

To become a scientific striving, the intuitive method must be subjected to more detailed investigation. Only then will we know exactly what we are doing and why we have decided to adopt one procedure rather than another. To the psychiatrist more than to other physicians, rapport assumes especial interest, for it is a vital part of his chief method of therapy. It is a delicate matter to determine which type of relationship is best to use at the moment in a particular case. It seems worthwhile to investigate the therapeutic interview with reference to the attitudes adopted by the physician, so as to have in mind, together with a recognition of the patient's

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needs, a formulated knowledge of various measures which the psychiatrist has available for dealing with those needs.

It is the purpose of this paper to call attention to various attitudes he may take in treating patients. What follows is not intended as something new, but is offered in the belief that some of these things which every psychiatrist knows and uses ought to be set down in explicit statements. The writer has found them useful in teaching, where it is especially necessary to embody in phraseology the concepts of our methods. Although they must be described one at a time, the doctor must have all of them ready for use like the surgeon with various instruments in readiness, so that he may select on an instant's notice whichever one his judgment finds desirable. No particular order for reviewing these procedures is necessary for they are not connected with each other so much as with the conditions and attitudes of the patient. It will be convenient to refer to them in a series proceeding from the more passive to those in which the physician takes a more active part. Several of the rôles described overlap, forming combinations which are hardly dissoluble. The separated descriptions sound artificial, because in the interest of sharp focusing they are isolated for discussion.

The simplest and most passive rôle of the psychiatrist in an interview with his patient is that of being a listener, a mere sounding board for whatever the patient wishes to put forth. This permits the patient to express himself and so to relieve some of his internal pressure. He gets his ideas more clearly formulated for his own understanding by casting them into specific wordings. By hearing how his own thoughts sound, he may gain some self criticism. There are many who obtain help from having an attentive ear to which they realize they may confide their feelings and opinions. The hypomanic patient, a difficult problem of management because of dissatisfactions and restlessness, may derive sedative results from repeated interviews in which the examiner has little or nothing to say, but spends the time in inviting, by his interested and attentive silence, the outpourings from the patient's active mind. Confused and rambling patients may, from the very fact of being engaged in a conversation with a calmly listening person, attain greater ease. Being a listener is a significant part of the early stages in examination and treatment of the patient, whose telling of his own story and difficulties as he sees them is an effective way to establish rapport.

Another useful rôle is often accepted by the physician, namely that of being a target and allowing the patient to use him as the object of whatever attitudes, delusional ideas or emotional states are active at the time. In adopting such a passive, permissive rôle the physician becomes a blank screen upon which the patient may project whatever he has in himself to bring forward. It may be suspiciousness, or accusation or affection. It may be the submissive dependence of an immature personality, or the snobbishness of the insecure, or the teasing of a sadistic character. This method permits the displaying and working out of latent behavior patterns so that they may receive ventilation and be more carefully observed for later discussion.

People usually find it easier and more natural to act out their inner tendencies than to find verbal expression for them. One may observe and understand what he is doing more readily than he can realize the implications of what he is saying. He is apt to accept his own conduct as more convincing evidence about himself than the words which he has uttered. Thus, a patient of the writer's who had been denied a certain request and felt very much upset about it, was allowed to pour out a tirade of abuse and criticism of the physician ending in tears and the seeking of sympathy. Later study of this outburst led to the patient's realization for the first time that in many of life's annoyances he had been using the same pattern.

All of us have blind spots—portions of fact which are not included in our perspective because they have not been sufficiently inspected and so are not being well managed. This is especially true of material with which the patient is having difficulties. The psychiatrist may call to the patient's attention this material which he has somehow overlooked and in so doing adopts the rôle of a pointer or indicator, a spotlight as it were, to point out to the patient topics or facts which deserve his closer attention.

We have to employ this method either because the patient has not realized the importance of looking at the data or because due to inner resistances he has not been able to bring himself to the unwelcome point at issue. By directing the patient's focus of thought upon such neglected matters, the psychiatrist aids in clarifying understanding and adjustment. If a man has been following some careful plan of life but is concerned because he finds it leaves him discontented, he may be given help by having pointed

out to him some problem which, once grasped, can be resolved. Patients may get a considerable feeling of satisfaction from realizing that they can call upon the doctor to suggest to what they should next pay careful attention. Here the psychiatrist is taking a more active part than in the previously described rôles but is offering nothing actually new to the patient.

Another rôle is that of the comforter, one which the public feels it has the most right to ask of him. But judgment sometimes calls for withholding of the surgeon's knife and, similarly, the psychiatrist must decide whether to be the comforter to the patient or whether it is better psychotherapy to withhold that which is so eagerly desired. With some psychoneurotics it may prove weakening rather than strengthening to play the part of the comforter too often.

On the other hand, we are familiar with the therapeutic benefit of reassurance, of sympathizing, of commiserating and of agreeing. Here we play the part originally played by the mother. Many a patient is helped merely by feeling that his doctor knows how miserable he feels, how much anxiety he has. In its proper place, this may contribute to a night's sleep, or to a renewed determination in the patient to struggle on towards accomplishment. An interview which brings consolation and the feeling of personal understanding may be the means of averting a suicidal attempt.

Another rôle is related to that of the pointer. It is that of the explainer which calls for more initiative by the psychiatrist. The explainer not only calls to the patient's attention certain facts which he already possesses but he adds to this the pointing out of relationships and the indication of cause-and-effect combinations, so as to show the patient possible reasons for facts which have troubled him. Patients often feel helpless and disquieted because they sense that something is going on which they cannot understand. What they cannot explain may seem confusing or even terrifying. Certainly they can hardly be expected to regulate to best advantage machinery with which they are not familiar.

And so the explainer can be of assistance in the giving of better orientation. He seeks to give effective interpretations of the available facts. Many anxious cases are upset, not over the data as such, but over the incorrect and distorted interpretations which they have assumed. The explainer places the material in better

relationships. Misinterpretations can often be straightened out by simple correct evaluation of the facts. A young man came to an out-patient clinic in terror lest he was developing epilepsy because he had had two fainting attacks. Upon taking a detailed history, it was possible to give him substantial reassurance by showing him the relationship of one fainting spell to his having gone all day without food, and by explaining the second episode as related to the over-oxygenation of his lungs by rapid deep breathing requested during a physical examination. A man on a surgical ward had continued vomiting after a gastroenterostomy although no physical cause could be found. The psychiatrist discovered that the patient held but a vague notion of what the operation had been and believed that all exits from his stomach had been obliterated except the esophagus. He had therefore continued to regurgitate by voluntary effort, assuming that it was the only means of elimination. A few minutes with paper and pencil in the rôle of explainer sufficed to overcome the problem.

In the rôle of desensitizer the doctor seeks to lessen the guilt and anxiety from which so many suffer. He tries to reduce an over-developed self-critical tendency, or an undue sensitiveness to attack from without. A close relationship exists between the rôle of desensitizer and that of explainer and comforter. Desensitization may, in some cases, be achieved by accustoming the patient to material about which he has felt uneasy because of unfamiliarity, or awkward because of too little practice, or rigid because of prejudice. The emotional pressure which prevents one from mentioning a deceased relative indicates a maladjusted situation and, if we may lessen the individual's tense way of responding to the painful fact, it can lead to a more comfortable attitude. Again, patients not infrequently feel such self-criticism, shame or embarrassment that they cannot have the benefit of discussion of matters until the psychiatrist succeeds in allaying the undue sensitiveness so that rapport is improved.

A patient will become blocked by the arising of a memory or of a word which he cannot bring himself to say to the physician. Here is indication of a kind of sensitivity which may call for us to drop whatever other rôle had been employed to adopt the task of overcoming a crippling and painful inhibition. The adolescent with exaggerated self-condemnation about auto-erotic practices

needs far more to be treated for his sense of guilt than for his habit. The man in his fifties who is horrified to find himself getting older requires desensitization more than mere comforting or explanation. Mark Twain is recorded as having said in his later years, "I have known a great many troubles in my life—most of which never happened." This is another way of saying that most of our patients' worries, troubles and feelings of inferiority are based upon mental attitudes rather than upon objective facts.

Mental problems arise of which an individual is little, or not at all, aware. Then there is need of the analyzing rôle. This refers to the psychiatrist's effort to get at the unconscious factors of the patient's illness and to help him to acquire as much understanding and management of them as possible. The analyzer helps his patient in the light of his own increasing understanding of the unconscious dynamics. This procedure may be along either of two paths. He may assist the patient to comprehend motivations of which formerly he had been quite unaware, or he will merely acquire his own better understanding of the patient's motivations, urges and limitations. In this case, the benefits of his adopting the rôle of analyzer must be realized in other ways after the data have been gathered.

Sometimes an individual is unable to overcome a problem which is troubling him, because he has not seen enough of the facts. If he had enough accurate data, perhaps his own reasoning would extricate him from misinterpretations or false assumptions. In such cases the function of the lecturer is called for and the physician can be helpful by giving him additional information. The individual who has been concerned over the fancied effects of autoerotic practices may need a simple explanation of the anatomy and physiology of the genital apparatus. Again, a frank discussion of the facts of his commitment procedure with an excited patient can relieve an impression that the hospital is illegally working against him.

A familiar problem is brought to the psychiatrist by a patient who fears his memory is being lost or who is perturbed because he notes diminished powers of attention. A brief lecture on the memory function may point out the dependence of recall memory upon accurate implantation memory and the need of attention when the event originally occurred.

At times we use the tactics of the negotiator. It is easier to meet certain standards if one may expect some reward for making the effort. If we can lead him to realize that with self-control, the patient will reach a better location in the hospital, or if we stimulate improved behavior by extending to him the prospect of going home sooner, or if we can convince him that more companionship and activity will add to the social esteem he receives from others, then a therapeutic purpose has been served. This method is one which can be varied in its vigor from the faintest hint to the most authoritative command. In some instances, results can be obtained merely by pointing out that if the patient will do so-and-so it will convince his physician that he is really making an effort. It is certainly psychiatric therapy when we walk away from a patient desirous of longer interviews, with the remark that when he is able to confine himself to a serious discussion we will talk longer with him.

The negotiator may proceed in an opposite fashion; instead of offering rewards for improved conduct, he may point out that undesirable results will follow unsatisfactory behavior. We may pause to ask ourselves whether it is ever proper to use threats but if the wording and expression of attitude are carefully chosen, it seems permissible to warn one that unless he can eat his food he will have to be fed. The adoption of this assertive method by the psychiatrist should, however, receive careful thought before being employed.

There is another assertive rôle of undoubted value, namely that of the manager who uses his initiative, his power of decision, to supplement, or even to overcome, that of the patient. We can think here of the sluggish, depressed patient who, if left to his own devices, would not get outdoors, or of the hypomanic individual who, recognizing no need for remaining longer in hospital must, nevertheless, be held for further convalescence. To such a vigorous rôle many patients react with satisfaction that while they do not feel able to decide things, decision has been taken out of their hands, and responsibility is lifted from their shoulders. The fact of the physician's taking the initiative by giving orders for the patient may be of more significance in the working out of his problem than is the content of the order.

The whole problem of submission or assertiveness is raised whenever the psychiatrist undertakes the rôle of the manager. It will arouse the negativism of a dementia præcox patient, the scornful defiance of a man accustomed to dominate in his own office, or the hostile opposition based on the insecurity of a paranoid case. With such a two-edged sword, the psychiatrist must constantly note whether the rôle is likely to prove beneficial or if its use may defeat his purpose.

Perhaps the most ambitious rôle to undertake is that of the philosopher. In doing so the psychiatrist is not trying to give his patient additional facts like the lecturer, nor to show relationships between facts as does the explainer. His approach is, rather, concerning the attitudes the patient has to his facts. He seeks to show ways of taking the facts. If a man's viewpoints limit his proper activities or if his adaptations to life are inefficient due to his ways of responding in thought and in emotion, some remolding of these habitual responses may be needed.

The reconstructing of a person's attitude may be undertaken in regard to some single issue, such as the view he takes of some past mistake. Or it may involve an entire system of philosophical leaning so that an effort is made to alter various of his outlooks. A troubled patient may wish us to strengthen his faltering belief in the existence of a God; another may seem to have no appreciation of the moral issues involved in his repeated writing of worthless checks. The philosophy of growing old gracefully needs to be taught to many of our patients. Or with more specificity patients may ask how to deal with a disliked relative and whether to admit having been in a hospital for mental illness. We may be quite put to it to determine how far it is permissible and wise for us to go in seeking to modify the fundamental, philosophical attitudes of another individual.

To those who have complicated their problems with conflicts over what they regard as right and wrong, the neutral, nonmoralizing attitude of the psychiatrist is one of his most comforting and helpful qualities. It is shown most clearly in his rôle of a philosopher. It underlies his ability to act in the rôles of the comforter, the passive listener or the active desensitizer. The very neutrality of his attitude towards the patient's data constitutes a basic sort of philosophy. His interest in helping the patient to

recognize social, rather than merely moral values, emphasizes this rôle.

One might enumerate other capacities in which the psychiatrist acts in his relationship with the patient but these offer sufficient evidence of the manifoldness involved in our therapy. No one of these rôles is better in all instances than the others. No one can be used in general or even exclusively with one particular patient. Changes in a patient's responses even from one minute to the next will call for a different reactive attitude in the psychiatrist. And also, the purpose of the physician in managing his therapy will dictate now the use of one and now of another of these procedures, depending upon the strategy he is planning.

With the more convalescent patient, any of these methods of approach can be used when it seems desirable. With the more acutely ill, however, certain approaches are not possible. We have only to think of the difficulty of negotiating with a confused, delirious patient, or of the impossibility of giving careful explanations to an excited, over-talkative man. Perhaps we can form some measure of the progress a patient makes by noting from time to time what additional rôles it is possible to use in our dealings with him. At the same time, we have an opportunity to check upon our own methodology and to work out at least tentative principles based on experience in the use of this, that or the other rôle in certain situations or with certain types of personalities.

It seems that setting up a list of the parts we play in exercising psychotherapy can be an aid in making us more self-conscious and scientific than if we proceed with naive, intuitive or merely ingenuous "common sense" approaches to our patient. The deliberate selection of a particular rôle judged best to suit the needs of a patient's psychic condition seems a rational approach to the study and the practice of psychotherapy.

DISCUSSION.

DR. HENRY HARPER HART (New York, N. Y.).—Dr. Sprague's simple, clearly thought out, precise paper tends to fill us with a certain feeling of humility which we, as psychiatrists, need to have, I think, when we recognize the protean rôles which the psychiatrist must play not only consciously by himself but sub-consciously in the mind of the patient and the degree of sensitiveness we must have to human reactions, feelings and needs.

Perhaps if we were to express our chief source of error it is in lack of sensitiveness, in lack of being able to feel in our contact with the patient what that patient needs. Many of us are apt to follow along certain lines of therapy, and because we have had success in a particular line we are apt to continue through the momentum of our own desires for success.

I think it is a matter of having a faculty of imagination which certain writers such as Dickens, Thackeray and Galsworthy seemed to possess, a capacity to see what lies back of the façades of the patient, to find out what is at the heart of the trouble.

Dr. Southard had a term particularly applicable to this quality, "The emphatic index," a capacity to feel and put oneself into the shoes of the patient or, in more psychiatric language, the capacity to identify oneself with others.

It is a very wise psychiatrist who knows when to shift from one form of therapy to another. Dr. Sprague's paper has shown how shifts are necessary, and how one must constantly and objectively watch the patient and know what particular approach is timely and appropriate. We do that, as Dr. Sprague has said, largely intuitively, and I wonder whether we shall ever get beyond that intuitive stage, whether we shall ever be able to formulate rules and regulations as to what particular attitude to assume to patients, because in the first place we cannot describe patients. Every individual is an individual, and no psychosis repeats itself, in all its details.

Perhaps one might offer the suggestion that it is possibly the degree of psychic maturity in the patient which determines the rôle we will actually play, and this we arrive at, as Dr. Sprague has said, more or less intuitively. A childish, submissive, suggestible person is more apt to respond to an authoritative rôle; a mature responsible, critical person to a passive catalytic attitude, facilitating the arousal of memories and wider synthesis, and drawing out the various repressed things that are troubling him.

In using hypnosis a great deal, I find the authoritative rôle works best in suggestible, submissive persons, or in those who with outward, aggressive masculinity often retain a passive submissive attitude inwardly.

Hence it is of importance to get a preliminary understanding of the patient's relations to his parents in order to understand what rôle one should play at any particular time as well as what rôles the patient is ascribing to one from time to time. Since we play the rôle of the parent in almost all instances, it is of great importance to know what we are doing in our own minds, as well as in the mind of the patient.

To the lay person and to the patient, I am sure all this talk of assuming rôles must sound artificial and pretentious. Most patients appreciate sincerity and want above all else a wise and discreet friend in whom they can implicitly trust.

If they realize that we adjust ourselves so consciously to certain rôles, may this not destroy some of their confidence in us? Naturally, we all play some kind of rôle in life, mostly unconsciously, but does the consciousness of this rôle give us a useful flexibility and adjustment at the cost of vital

depth and warmth which the patient needs? That is merely a question. I don't feel definitely fixed with regard to an attitude about it.

One thing which tends to provoke a rather bad reaction on the part of the patient is the work-up which so many of our social workers have developed toward the psychiatrist, and which often results in a let-down when the patient comes into contact with the psychiatrist.

I have seen workers go into an elaborate effort to persuade patients or relatives to approach the psychiatrist which, as you know, is quite an ordeal, or at least they think it is an ordeal, and possibly they have oversold the psychiatrist in the matter of therapeutic prestige. Frequently, the psychiatrist is rather hurried, and he makes a few matter-of-fact questions and perhaps keeps the patient waiting a long time, and as a result, any possibility of a good rapport fades out.

A few words about ridicule. This two-edged weapon was not touched upon by Dr. Sprague, and we all appreciate that most sensitive patients are apt to recoil against it. Many doctors find the complaints and attitude of some of their psychiatric patients too absurd for words. They cannot restrain their ridicule, and in consequence lose their patient's confidence.

I am not talking about *the* psychiatrist, but in general, practitioners cannot repress this attitude. In consideration of this, therefore, it must indicate considerable temerity on my part to mention that in certain instances I have found ridicule of some value. There is a group of chronic, masochistic hypochondriacs the burden of whose lives is to bewail their martyr rôle, evoke sympathy, solicitude, and demand all kinds of examinations and tests. No matter what you do for them, they always come back gloating on how much worse they are.

Some years ago in reviewing a thousand psychiatric cases at the Vanderbilt Clinic, I found that of all cases that showed the least effects from psychotherapy, hypochondriacs were the most outstanding. Many physicians find them intolerable and try to get rid of them as soon as possible by foisting them on someone else.

In certain of these cases I have been experimenting with an attitude of ironic over-solicitude. I exaggerate to the point of absurdity the suffering of the patient, to the point where even his frail sense of humor is apt to glimpse something of the absurd. No smiling is permitted. The treatment becomes a solemn burlesque of the patient's martyred attitude towards himself.

At the end of the hour, I have succeeded sometimes in getting the most whimpering hypochondriacs to laugh heartily at the absurdity of their own solicitude, whereupon I chide them solemnly that they must not laugh at this, for if they do they might get well. This usually causes them to sober up immediately. This approach is a little too new, however, to claim anything more than mere mention.

The whole technique must be carried out without the slightest smile, entirely ironic, because if the patient senses that you are ridiculing him too much, he develops an antagonistic attitude.

Another way of giving the patient a more balanced perspective of his attitude of life is by telling him a funny story which depicts the attitude

which he himself represents. One has to know the patient, however, beforehand. Be sure that his sense of humor is adequate to the situation.

It is, perhaps, surprising to find such a large number of patients expecting the psychiatrist to be a magician, who seem unprepared to make a serious effort to get well. This desire to get well represents, therefore, one of the first factors in the patient which must be cultivated and developed in the course of psychotherapy.

There are many infant personalities craving sympathy without spending the slightest effort to get well, loudly insisting upon his great gratitude to the physician if he can get him well. We are all familiar with that type. How to skillfully approach this problem would be worth some study.

The man in psychiatric practice has, perhaps, less leverage in this matter than the institutional psychiatrist who has within his grasp a more definitely parental, custodial rôle, and can apply the pressure of discipline without seeing his patient fade away into thin air.

In some instances, perhaps, one might ask them why they insist that they are so anxious to get well and what this suggests to them, so that perhaps through frank association the patient may be brought to face some of the gains of illness.

On the other hand, one may prescribe to the patient a program to be carried out with a time limit. When he reappears, he can be checked up on this. It is interesting to note the variety of responses to such a plan. Those evidently not interested in getting well either do not turn up again, or else they have all kinds of excuses for their failure to follow the program.

Others accept it as a novel challenge and return with some pride to demonstrate how completely they have fulfilled it. The over-conscientious ones are apt to carry it out scrupulously to the letter, so that the treatment becomes a burden like the rest of life, but one can make use of their conscientiousness to get them to accomplish things that are anything but conscientious. By carrying out specific programs of this sort, it has been possible to give the patient the realization that there is something definite to do about himself, and that the treatment has some definite, tangible goal for which he must expend some effort. He begins then to recognize his responsibility in getting well.

In conclusion, I might offer a few reasons for possible failure in the patient-physician relationship which have occurred to me in this connection. First, the inability to identify himself with the patient and his problem.

Secondly, the inability to sense the need for a change of therapeutic approach. Thirdly, unconscious identification with the patient's problem and inability to assume more objective and detached relationship, with too great readiness to take sides emotionally with the patient against his obstacles.

Next, annoyance and irritation by the persistent demands of the patient. Fifthly, hurried interviews in which one has been rushed for time, causing a consequent tension and the probable impression that one is not deeply interested in their story.

Sixthly, anxiety to cover too much etiology in the first interview, with the consequent threat to the patient's equanimity and a feeling of artificiality in the relationship.

Seventhly, and lastly, but most important, a lack of imagination or insight into the creative potentialities of the therapeutic situation.

DR. OSKAR DIETHELM (Cornell University Medical School, New York, N. Y.)—I cannot add much to Dr. Sprague's discussion, because I would agree very much with what he said and the way it was presented. I would have more disagreement with Dr. Hart's discussion from several points of view. First, I don't believe that treatment is intuitive.

I think our treatment definitely depends on our ability to understand what we are doing for the patient, and to do justice, naturally, to the individual differences. I don't think there is any practitioner, who is doing this work, who will disagree with that.

My point is that we should become aware of it and work with that in mind, and I think Dr. Sprague demonstrated it in his decison. He really gave the facts that I have merely outlined.

I would also stress the factor of frankness and honesty. I could not accept any tricks and could not accept ridicule as a part of the treatment.

Those are two minor points which struck me while I listened.

DR. GEORGE S. SPRAGUE.—I want to express my appreciation for the points that have been raised in the discussion, and to say that I am glad that some additonal rôles have been mentioned as helping to point out that the rôles that were mentioned in the paper were not intended to be inclusive, but only illustrative.

From the standpoint of those who base their treatment on psychoanalytic understanding, the various rôles mentioned can all be included under the one heading of the rôle of parent, and these various reactive manners of the psychiatrist are simply different kinds of parents, so that we would then say that we are playing the rôle of the giving parent or the withholding parent, or the administrative parent, or what not.

The question of self-consciousness in the psychiatrist deserves one further word. I feel that it is necessary for the man who is going to be the psychiatrist instead of merely the man in relationship to his patient, to become self-conscious. He has to learn to see what his method is, and so get a critical evaluation of why he is doing this, and why he is not doing that, and why he changes. That cannot be done in psychotherapy without developing a certain amount of self-consciousness.

CLINICAL STUDIES OF INSTINCTIVE REACTIONS IN NEW BORN BABIES.*

By MARGARETHE A. RIBBLE, M. D., New York City.

In approaching the intricate problem of human instinct from the point of view of ontogenetic development it is hoped that a better perspective may be obtained on the fundamental life drives of the individual as they are expressed in the biological functions of the developing infant and of the kinds of reaction likely to occur when these dynamic drives are frustrated.

Recent research has led to the conclusion that mental disease is a distorted biological reaction resulting from a series of adaptive failures or traumatic experiences which may occur during various stages of development. Types of reaction appropriate to an early form of integration may thus become overcharged with importance and conflict with later developments: or instinctive trends which ordinarily would become represented in higher forms of cortical expression, may remain loosely integrated, or become warped and distorted. It seems highly important therefore, for purposes of prevention as well as for getting knowledge of the sources and dynamics of mental disease, to study the earliest types of biological functioning which precede and lead up to cerebration.

The literature on infant psychology and behavior, both recent and not-so-recent, is already rich and varied. It consists largely of "cross-section" descriptions of reflexes or reactions which are most nearly like the discrete and well differentiated behavior of the adult.

The conception of an innate drive in the infant to develop itself according to the latent hereditary pattern of the human individual with the cerebral cortex as its goal, is little considered, nor are the deeper biological roots of behavior in elemental physiological proc-

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The studies on which the material of this paper is based are being carried out by a project under the dementia præcox research which is being directed by Dr. Nolan D. C. Lewis and financed by the Scottish Rite Masons.

esses of circulation, respiration and motility, sufficiently discussed. Therefore, the subtle relationship between the physiological and the psychological, which should become clearer through the study of the infants' reactions, is still obscure. It is perhaps here that a new understanding may be found of forces leading to psychic organization and disorganization.

The clinical material for the study has consisted of some five hundred babies observed in the nurseries of two large maternity hospitals of New York City. Out of this fairly large amount of material which was observed carefully for purposes of orientation and control, definite problems of functional mal-adjustment concerned with sucking, breathing, sensory-motor activity and sleep, have presented themselves. A small group of infants in whom these problems appeared most definitely have been chosen for intensive study over a prolonged period. The particular adaptation with which this paper is concerned is that which must take place at birth from the fœtal method of eating and breathing, to the nose-lung and mouth-gut mechanisms necessary after delivery and the instinctive reaction of the young organism to difficulties in making this adjustment.

The adaptation of birth is perhaps the most sudden and complicated in human existence. It cannot be understood without some knowledge of prenatal physiology. The first functions which bring the new born infant in contact with the extra-uterine environment are breathing and sucking. In the fœtus, these two activities are not yet completely differentiated, and the heart serves as both nutritive and respiratory organ in the first months, supplying the basic needs from the blood reservoirs in the placenta and from the first food storage organ, which is the liver. Functional activity is thus introverted. The first indication of two distinct types of functioning comes in the separation of the heart into two chambers. The one which is to be for the systematic circulation and the other for the pulmonary. The first distinct respiratory organ which is peculiar to the entire mammalian species is the diaphragm, the muscles of which descend from the neck region in the 10 mm. embryo.[1] It is the main organ of respiration in the young infant, due to the peculiar formation of the chest.[2] Further differentiation of what are to be breathing and sucking mechanisms is seen in the structure of the mouth and tongue [3] when the growth of the hard palate separates it distinctly into an eating and breathing depart-

ment. Thus a large part of the developmental trend of the fœtal organism seems to consist of processes of respiratory differentiation and in the establishment of better circulation particularly in the direction of the brain.

The random movements of the infant, which have been the source of so much discussion among psychologists and infant-behaviorists, doubtless serve the purpose of distributing the circulation where it is most needed and of relieving stagnation in sluggish vegetative areas of the fœtal tissues. These tissues at birth have been found to be well supplied with glycogen but distinctly *deficient in oxygen*. Recent studies [4] of the arterial and venous blood from the placenta taken during Cæsarian section, under lumbar anæsthesia and before the onset of labor pains, have shown that the oxygen content of the blood going to the fœtus is only one-fifth that of adult arterial blood. In the mature individual the venous blood diminishes one-third in oxygen content; in the fœtus, it diminishes fourth-fifths. So that, although the metabolism is known to be very low, the organism is definitely oxygen-hungry. This is to be expected because the emphasis on brain growth in the human fœtus necessitates a great consumption of oxygen. One would expect that with the first breath, the infant would experience a general relief of tension of no small magnitude. The lungs, however, do not expand completely until near the end of the first month and the blood picture, which at birth is like that of a person living at a high altitude, alters slowly to the environment. Birth is therefore an extensive reorientation of functional activity.

On observing the new born, one is immediately struck by the fact that there is extreme variability in the breathing and mouthing activity of the so-called "normal" infants. Many babies cry vigorously without assistance and even make spontaneous mouthing movements as soon as the head is delivered. Others must be aspirated before they can breathe. In a few, true sucking is observed usually in response to accidental contact of fingers and lips. In some cases the slightest obstruction with mucus precludes the respiratory function. The organism has, as yet, little or no approach behavior toward the environment. (In lower animals, for example, the Rhesus monkey,[5] the infant assists in his own birth by catching hold of the fur of the mother and pulling himself out of the birth canal. He then drags himself up to the breast and

catches hold of the nipple, without any assistance on the part of the mother.) In the case of sucking, many babies, although they make spontaneous mouthing movements, when put to the breast for the first time, make no sucking response whatsoever. The mouth must be opened by the nurse and the nipple inserted while the chin is worked up and down in order to initiate sucking activity. True sucking has to be initiated or learned since it is an adaptation to a new situation.

The impression gained is that new born infants may be roughly classified into two groups: the larger, organized at a reflex level of activity with instinctive energies well mobilized in a sort of biological attention, expectancy, or more exactly, hunger for tactile stimulation; and a smaller "vegetative" group which, until they are repeatedly assisted and stimulated, are not ready to make a sensory-motor adaptation but continue to function in the fœtal way.

The "vegetative" infants are those showing in the first days little motility. Respiration is shallow and irregular. They are indifferent to food, and stuporous; and, if they are not repeatedly stimulated to breathe, would die. After prolonged uncomfortable experiences, such as being dressed, over-handled or bathed in a cool room, a peculiar type of spasmodic breathing occurs, in which the entire trunk muscles participate. However, a skillful mother or nurse is usually able to establish regular eating and breathing functions in a short time, so that many of these babies can soon adapt themselves almost as well as those better equipped at birth. The striking fact is that this better adaptive ability appears to come about *through frequently repeated stimulation of the oral zone,* in the attempt to get the infant to eat and through the deep breathing which comes from crying. These functional activities—tongue and diaphragm—must have gone on in the fœtal state.[6] The eating and breathing of the new born, which are the continuation of fœtal activity, are the nucleus of coordinated function around which other sensory experiences are built up.

The better organized or reflex type of infants make an active response to the environment, crying and squirming vigorously with any strong stimulus. When gently stimulated with warm bath or gentle motion, respiration becomes deeper and more regular and color becomes better. They tend spontaneously to become restless

with generalized body movement, wriggling and limb slashing, from six to twelve hours after birth, and this reaction is interpreted as hunger in the usual adult sense, but, as will be shown later, this restlessness has other causes. If given water or food, they may suck eagerly, but as a rule promptly regurgitate. The gut mechanism is not yet ready to function. At the end of 12 hours, they are put to the breast to begin with the experience of nursing. The amount of colostrum is small in the first two days, and an infant weighed before and after nursing, is found usually to get only about a half ounce. However, the effect of the sucking is in most cases quieting and a deeper sleep follows. Some of the older pediatricians were of the opinion that breast milk had a sleep inducing effect. Others thought this reaction was due largely to fatigue. Close observation leads the writer to conclude that the sleep is due to relief of nervous tension accumulated from the various experiences which follow birth. Infants use this means of relieving tension and when under strain they suck. The picture is not that of fatigue. Color is better, respiration deeper and relaxation more complete. It is probable that the nervous energy is discharged into the cortex over the oral pathways, which are those best developed at birth.

The experiment was tried of giving infants a rubber nipple to suck immediately after birth or as soon as they showed restlessness or mouthing movement. Some would suck immediately on the nipple and the restlessness was definitely quieted by sucking activity, even though nothing was ingested. A few others appeared to push the nipple out of the mouth with the tongue. If it was held in place, sucking usually occurred. This reverse activity of the tongue seen frequently in premature babies possibly represents a fœtal activity for keeping fluid out of the lungs and for propelling blood toward the brain. After the establishment of breathing, this is not necessary. The exercise of the sucking mechanism evidently aids in the establishment of associative connection in the chain of reflexes connected with the new method of taking food but most of all it appears to assist materially in discharge of nervous tension.

The custom particularly prevalent among peasant classes of giving pacifiers, and in this country, among the Negroes of the South, of giving the infant a "sugar-rag" (moistened bread crumbs with

sugar tied up in a small soft cloth) shows an intuitiveness to the fact that the infant thrives and functions better when it has enough of sucking activity. The babies in the care of these Negro mammies thrive in an astonishing way. They have had adequate sucking experience before having to master the eating function.

Tendency in the modern nursery is to feed less frequently, which, of course, gives the infant less sucking time. Groups of babies on three and four hours schedules were observed. A large group of babies on a three-hour feeding schedule were somewhat more alert, with better color and more vigorous muscular response. Breathing was more regular. The actual amount of sleeping time was somewhat less, but the character of the sleep was better, muscular relaxation was more pronounced. Arms and head were frequently thrown back as if there had been a postural acceptance of the new situation. Respiration during sleep was deeper and more regular. The infants awakened for the most part, spontaneously and were actively wriggling and crying before feeding time.

The group on the four-hour schedule was quieter, and the infants were considered by the nurses to be "better behaved." The sleeping period was somewhat longer, but the posture during sleep was more tense with a general tendency toward body and limb flexion. The infants rarely awakened spontaneously for feeding.

The impression was quite definite, however, that these differences were not simply a matter of hunger and satiation, because the gain in weight and the actual amout of food ingested (determined by weighing the baby before and after feeding) was approximately the same whether the infant was on a three- or four-hour schedule. The differences noted were due to several factors: obviously to avoidance of the tension of waiting the longer interval for food; to the sucking exercise which came with the more frequent feedings and perhaps, most important of all, to the tactile stimulation of the mouth zone which appears to be the first area represented in the cerebral cortex.[7]

Along with the above general observations, I should like to present for your consideration an outstanding reaction to sucking frustration. This occurred in infants who had difficulty in getting hold of the nipple. Frequently, one finds inverted nipples on which the infant could not get a grip; sexual infantilism with poorly developed breast tissue; and, perhaps, most difficult of all, and

often combined with infantilism, a deep resentment in the mother toward the child, which manifests itself in disinterest and clumsy handling. She unconsciously makes it difficult for the child to function.

The reaction is that the baby makes an attempt to suck but after two or three failures to grasp the nipple, becomes suddenly stuporous, as if all cerebral functioning had been abandoned. After several failures, reflex sensitivity diminishes and finally disappears. This stupor reaction was familiar to the older pediatricians, who described the babies manifesting it as "sleepy babies" or "breast shy" or "neuropathic infants." They failed to recognize the steps in the development of these reactions, and the connecting link to the sucking failures that bring them about.

It is customary for the nurse to attempt to arouse these babies who fall asleep at the breast by picking them up, spanking them, tickling their feet or chucking them under the chin. After several nursing failures, vigorous efforts to arouse these cases had no effect. Reflex sensitivity appeared to be lost. No amount of peripheral stimulation would produce a sucking response. They seemed to have regressed to a vegetative type of functioning, peculiar to the fœtus and the sucking reflex appeared to have dropped out entirely. The character of the sleep in these frustrated infants was quite different from that of the babies who had been satisfied by sucking or drinking. The respiration was irregular, shallow and often of the Cheyne-Stokes type, and the color of the skin after several feeding failures soon became pale, as if blood had receded from the surface. They rarely awakened for feeding and when awake were listless and apathetic. Also, they are peculiarly insensitive to the ordinary discomforts of being dressed and having their noses and mouths swabbed, and the sensitivity appears to diminish as the circulation recedes inward. In other words the organism is functioning like a fœtus.

The disorganization of these important functions may be temporary or else if not immediately recognized and dealt with, it may rapidly threaten the life of the child and must be treated similarly to the condition of severe shock. Introduction of food into the stomach rarely relieves the condition because it is not a true food hunger. Stimulation of peripheral circulation by means of saline clysis, intravenous glucose, or, in emergency, transfusion of blood,

brings the best results. The child is fed temporarily by gavage. After recovery from the acute manifestations, the infant must be taught to suck by stimulation of mouth. Usually weaning is necessary and bottle feeding, where the sucking is easy, is substituted.

The following case which along with others is being followed up in order to ascertain as nearly as possible the effects of the early feeding frustration illustrates some of the reactions described. The mother of this baby is sexually infantile both physically and mentally. She did not wish to have the child and during pregnancy did not show the usual breast development. She had no desire to suckle the infant but was urged to do so by her obstetrician who felt that it would stimulate a "maternal attitude" in her. The baby at birth was robust, breathed spontaneously and sucked with considerable vigor on a bottle. The mother's nipples were practically flat but with the aid of a nipple shield the child was able to draw them out to some extent, and complementary feedings were given from a bottle so that no weight was lost. At the end of three days the attempt was made to have her suck entirely from the breast. This she was unable to do and after several failures the typical disorganization described above began to develop so that at the end of two weeks it was necessary to wean her because she was in such poor condition. Most marked of her symptoms was the pallor which rapidly became extreme although repeated blood examinations showed no anæmia. The sleep reaction was intense and after returning home from the hospital it was found that the mother encouraged this, bragging to the neighbors about how "good" her baby was and not awakening her for feedings. The child never showed signs of hunger though she took her bottle well if encouraged to do so. At the age of two months, if the bottle fell out of her mouth she would make no attempt to turn toward it or cry as the average infant does, but would immediately fall asleep. When awake she was listless and apathetic. Eye fixation and turning of the head to sound were present in the third month as is customary. Attention was fleeting and was not directed exclusively toward the mother as is usually the case with a small infant. The general alertness and improved motor coordination which ordinarily show such marked advances in the third month [8] (as the fœtal circulatory mechanisms become obliterated) did not

take place. The circulation apparently remained oriented toward the splanchnic area.

At six months the typical sucking behavior was as follows: She recognized the bottle with smiles and a small amount of kicking, beginning to suck with some vigor. As soon as the sucking became somewhat difficult due to the vacuum created, she would suddenly fall asleep. As the sucking muscles relaxed and the bottle fell out of her mouth she would awaken with a violent startle beginning to cry with a feeble frightened wail. Interruption of the sleep seemed more disturbing than the stopping of food. When the bottle was replaced she would suck again and the same thing would occur. Toward her mother, who rarely held her during feedings or at any time she showed a fleeting recognition but never cried for her. With toys she would grasp and finger them, occasionally sticking them in her mouth but getting apparently no pleasure from sucking or grasping, or otherwise orienting herself to the environment.

These studies are not complete and no far reaching conclusions can yet be drawn. From the observations already made, a few definite facts can be recognized. Namely, a fairly large percentage of babies are poorly organized functionally at birth, that is they show a very weak drive toward adapting to life outside of the uterus. This adaptation is most successfully brought about through the stimulation of sucking and through crying activity. Apparently, the pathway of progressive development toward an integrated cortical type of behavior lies in these functions and babies who have enough breathing and sucking activity rapidly attain a good organization of the eating and breathing functions. *They are then hungry for tactile experiences.* The mouth remains for some time the most sensitive organ for exploring the environment. When sucking is not readily established a marked and rather sudden reaction takes place, characterized by stupor and by an abandonment of reflex excitability. A gradual respiratory disintegration takes place and a "shock-like" condition of hæmorrhage into the splanchnic area. This represents the physiological type of integration of the organism in utero. An infant recovering from a severe frustration of this nature seems to be sensitized to situations of disappointment and a tendency to function according to an earlier pattern is instituted.

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DISCUSSION.

Dr. Isador H. Coriat (Boston).—Dr. Ribble sent me in advance a copy of her paper because there were certain features in it in which I was interested, and she has asked me to say a few words on it.

The types of reactions which she showed have interested me extremely because of my own psychoanalytic investigations on stammering. Of course, stammering, as you know, is a type of oral reaction pattern, and in the same way here we see the predominance of the oral mechanism.

In the adult stammering cases, we are dealing with a pre-genital neurosis, really a regression to that oral stage which Dr. Ribble has so vividly described, and so vividly presented. We are dealing in these cases either with a form of instinctual frustration, or with a reanimation of very early oral reaction. The adult stammering case shows all the oral sucking and oral biting reactions in the speech, the same as observed in these infants, so that the stammering case is really a regression to that very early stage of organization.

In these cases when the analysis goes deeply enough, the patient actually begins to make the same sucking and biting movements that he or she may have made at the time of nursing.

That is all I have to say on this very interesting presentation.

Dr. A. A. Brill (New York).—I was very much interested in this paper. I think it is a very fine contribution. I have a number of questions to ask.

I wish to mention, also, that I have two cases, both of which I could only diagnose as schizophrenic, although they showed nothing but rejection of food. One of them was perfectly normal in every other way, but she wouldn't eat. When she came to me, she weighed about ninety pounds, and she never weighed more than about one hundred and four pounds. She reduced her food to a minimum. The interesting part is that I had a good history from

her own mother. Her mother told me she was always that way. She said that she wouldn't take any nourishment right from the beginning, but the mother underwent a severe shock at the time that she was pregnant with her. She had already one child, which child is perfectly normal, well nourished and loves food. When she, the mother, was pregnant three months, she found that her husband was unfaithful to her. Then she became very excited over it, for some reason or other. She began to react with hysterical symptoms, extreme vomiting; she wanted to stop this pregnancy, but the doctor advised against it, so she went through a terrible pregnancy.

There is a case where we can say the mother influenced the situation. I have only had the patient for a very short time, and I don't know very much about it.

In the other case, also a case refusing to eat, there was a similar history.

Another thing I would like to know is this, and maybe Dr. Ribble can give us some information on it: I have seen a few very young children, six and seven months, who if they are given, say, vegetables for the first or second time, take them and eat them, and then all of a sudden they get tired of vegetables, like spinach, and won't take them. In two cases they were cajoled into taking it, and then threw it out, defecated it in its actual, pure form. I asked about it, and was told by a pediatrician that is quite common, that some children do not even digest it. The system doesn't like it, and the stomach doesn't make any effort to digest it.

Dr. Lawrence S. Kubie (New York).—It seems to me that when we as analysts invade the physiological field, we have got to do it with extraordinary care, and, frankly, I am not sure that that care has been exercised here; it may have been, but the evidence of it is not complete. In the first place, the fact that there are type differences, or differences in behavior of new born infants is well known, of course, and yet has never been adequately studied; but to draw any deductions from those observations as to the differences in behavior which we may later expect to see is dangerous, because they are born under different circumstances, and different conditions may exert influences on the behavior of the child for weeks thereafter which may have no significance for us in the terms of the interpretation of later personality disturbances.

The same thing, of course, is true for anything which occurs in the course of nutritional disturbances. The baby's whole physiological economy depends upon his nutrition, and the nutrition is subject to very subtle influences. Here again the influence of dehydration and hydration of acidosis and alkalosis and all the rest must be carefully watched and eliminated before one has any right to talk in terms of regressions from the psychological standpoint.

Furthermore, some of these infants, I think, were obviously pathological. The child shown on the screen was overventilated, dehydrated, in the state of acidosis from overhydration.

It seems to me we must be extremely careful in our interpretation of these observations.

CHAIRMAN CORIAT.—I am afraid the discussion will have to come to an end. Dr. Ribble, will you close, please?

DR. MARGARETHE RIBBLE (New York).—These babies are all under the Department of Pediatrics, where they are being studied every day and carefully checked up. In many of them, blood sugars have been done, in most, urine. They are controlled. I haven't used any pathological cases. I have had several pediatricians observing these children all the time, to eliminate anything of this sort.

I think the reaction particularly of this very fat and husky baby shows pretty conclusively that it is a functional affair and isn't due to acidosis or to some chemical state.

In regard to Dr. Brill's criticism, I would say about this baby with the spinach that that happens not because the baby doesn't like the spinach, but perhaps because it doesn't like its mother or doesn't like something that has happened on the days that the spinach is introduced.

It is quite a typical reaction, and has no reference to the food itself. I have seen it happen a great many times.

AN EVALUATION OF HYDROTHERAPY IN THE TREATMENT OF DELIRIUM TREMENS.*

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AND

PERRY C. TALKINGTON, M. D., Philadelphia, Pa.

Recent reviews of the literature covering the subject of delirium tremens have mentioned various therapeutic measures as being particularly beneficial in shortening the period of hallucinosis, and in reducing the mortality of the condition. Hydrotherapy is regarded as a splendid method of treatment, but as yet no detailed reports of this method are available. It is, therefore, the purpose of this study to compare the results obtained from treating delirium tremens by hydrotherapy with those reported for other routine measures.

In 1911 Ranson and Scott [1] made a comprehensive review of the medicinal treatment of delirium tremens and reported mortality rates ranging up to 37 per cent. Hogan [2] in 1916 reported 9.3 per cent mortality. His treatment consisted of intravenous hypertonic solution of NaBr, NaCl, and $NaHCO_3$; calomel and $MgSO_4$ by mouth, and intravenous glucose. Goldsmith,[3] in 1930, advocated spinal drainage. He reported a 10 per cent mortality in his series with an average stay of 30 days in the hospital. Of 1241 cases reported by Sajous and Hundley [4] in 1936, 121 died. They stressed continuous baths, showers, saline cathartics, restraint and massage, and preferred wet sheet packs in the presence of fever. Recently Piker and Cohen [5] reported a 5.3 per cent mortality with the use of digitalization, spinal drainage, intravenous dextrose and chemical sedation. Cline and Coleman [6] believe that increased spinal fluid pressure is intimately related to the cause of delirium tremens and treat this condition by spinal drainage, intravenous dextrose, $MgSO_4$, paraldehyde by mouth and limitation of fluid intake. They report a 3.82 per cent mortality in 157 cases. Steck [7] believes that narcotics

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and restraint would exert a deleterious influence. His method of treatment includes fluids, high carbohydrate diet, saline cathartics, digalen and, in liver damage, insulin. He feels that perhaps strychnine and lumbar puncture may be of some value. Bargues and Grimal [8] prefer sodium-butyl-ethyl-barbiturate, intravenously as a sedative because of its low toxicity. As adjuncts they use liver extract, normal saline solution, glucose, caffeine and camphor. Others [9, 10, 11, 12] advocate the use of hydrotherapeutic measures but give no statistical data, and with the exception of Gregg [9] no details of the treatment are mentioned.

It is generally conceded that the pathology in delirium tremens is due to overloading the central nervous system with the toxic products of alcohol metabolism. Rosenbaum, Herren and Merritt [13] report that 25 per cent of their cases of chronic alcoholism with exacerbations show an increase in spinal pressure and in the protein content of the spinal fluid; and Muzum and LeCount [14] find that 45 per cent of brains from individuals having died of delirium tremens revealed gross edema of the leptomeninges.

The Present Study.

Of 306 consecutive alcoholic admissions to the male service of the Taunton State Hospital, between July 1, 1931, and January 1, 1937, 112 patients were definitely diagnosed delirium tremens. The latter group of cases constitutes the material of the present study. All of these cases presented symptoms of active delirium on admission. Forty-six had been under the care of physicians immediately prior to their entrance and of these 22 were admitted directly from general hospitals where their treatment had been unsuccessful. Thirty-three entered with complications, including: convulsions 6; respiratory infections 9; head injuries 2; other fractures 3; polyneuritis 1; cardiac decompensation with ascites 2; hypertension 3; nephritis 1; jaundice 2; psoriasis 2; burns 1; pulmonary tuberculosis 1; facial paralysis 1; syphilis 6; shell shock 1. In age they varied from 21 to 72 years, the average being 43.4 years. On the whole these cases presented a serious type of delirium and, as such, afford good material for a comparison with other modes of treatment.

Treatment.

In order to add no further noxious material it has been our practice to completely withdraw all alcohol on admission. Saline cathartics were given as an aid in promoting elimination. In order to secure sedation quickly, and at the same time afford the patient adequate protection against self-injury, cold wet sheet packs were employed. This envelopment was carried out according to the technique described by Wright,[15] and it was our practice to retain the patient in pack envelopment from 3 to 4 hours. This was repeated until the excitement had diminished. If the patient entered in a febrile condition this treatment was not employed because in such cases the body temperature may rise to the point of heat exhaustion.

After the first period of excitement has commenced to subside the patient is placed in a neutral continuous bath at a temperature ranging from 93 to 96° F. The sedation is here more slowly developed, more prolonged in action, and the patient is permitted freedom of motion. The bath extends over a period of 3 to 4 hours, and may be administered repeatedly. In both the wet sheet pack and continuous bath cephalic cold is intermittently applied and the patient's head is kept somewhat elevated. This, according to Kennedy and Wortis [16] aids in reducing the intracranial pressure.

As an added means of promoting elimination electric light bath is employed every other day as soon as the patient is free from delirium. This treatment is followed by a needle spray and fan douche, also according to Wright's [15] technique. We find that this aids in stimulating the patient's appetite, his feeling of well-being, and produces a general tonic effect.

From the time of admission the patient is encouraged to take a liberal high caloric diet. As soon as continuous bath treatment is no longer necessary the patient is introduced to supervised occupational therapy, beginning with the simpler forms. Outdoor exercise and activities are encouraged in those patients who stay longer than a 10-day period.

Lumbar puncture was used only in 8 instances. In 4 of these the initial pressure was elevated above 10 mm. of mercury, and in 2 it was above 30 mm. All 8 recovered. It was felt that satisfactory results were obtained without resorting to this measure.

Digitalis was administered only when a cardiac condition supervened. Chemical restraint has been avoided in so far as it is commensurate with the well-being of the patient. In some cases this has not been found expedient because serious complications contraindicated hydrotherapy.

Results.

These patients were all committed to the hospital for a minimum period of 10 days, and it was the practice of this clinic to retain the patient for a longer time if any residual symptoms were present. Cases were not discharged who continued to show a gross tremor

	Age groups.						
	20-29.	30-39.	40-49.	50-59.	60-69.	70-above	Total.
Total patients in age groups	13	37	27	22	11	2	112
Patients recovered	12	36	26	21	10	2	107
Average hospital days of recovered patients	17.3	28	24.5	46	21	22	27 *
Deaths	1	1	1	1	1	0	5
Hospital days of patients dying	4	4	2	3	2	..	3 *
Average hospital residence for total group ..	..	..	..	..	..	..	27.3 †

* Average.
† Average for total.

even though the delirium had subsided. Those presenting complications, general debility or depression of necessity remained for longer periods. Many were unable to make an earlier adjustment to their home environments or to return to work. It is felt that the length of hospital stay, in view of the necessity of commitment, does not reflect upon the efficiency of the method used. On the other hand it permitted the completion of a satisfactory régime of treatment.

Under this régime hallucinosis persisted between 1 and 6 days or an average of 3.2 days. Three cases, because of severe complications, remained for treatment for a period of several months, bringing the average period of hospital residence to 27.3 days.

In the above table the cases have been arranged in age groups for 10-year periods. The major portion, 74 per cent, were

found to be between the ages of 30 and 60. While the largest number in one group, 37, were between the ages of 30 and 39, the longest average hospital residence occurred in the age group between 50 and 59. In this group the average length of residence was 46 days. This is significantly higher than the average of 27.3 days for the total number of patients considered in this study. As might be expected, the shortest average hospital residence occurred in the youngest age group, namely, between the ages of 20 and 29. Here an average of only 17.3 days was required for recovery.

Death occurred in 5 cases or 4.46 per cent of the total. One death occurred in each of the age groups between 20 and 70 years. Each of these presented a more serious type of complication on admission. One postoperative case having convulsions died within 2 days. Three had bronchopneumonia (one of these with convulsions) and died in 3, 4, and 4 days respectively. The fifth, with cardiac decompensation, ascites, convulsions and an upper respiratory infection, died in 2 days.

Summary.

In the literature mortality results in delirium tremens ranging from 37 per cent to 3.82 per cent are reported.

The present study consists of 112 consecutive admissions diagnosed delirium tremens which were treated principally by hydrotherapy. The routine of treatment consisted of (1) complete withdrawal of alcohol, (2) saline cathartics, (3) cold wet sheet packs during the period of active hallucinosis and excitement, (4) neutral continuous baths from 93° to 96° F., (5) electric light bath for the promotion of elimination, (6) fan douche and needle spray for their tonic effects, (7) high caloric diet, and (8) occupational therapy.

Under this régime the average duration of hallucinosis was 3.2 days with an average hospital stay of 27.3 days. The greatest number of cases occurring in any age group was found to be 39 patients between the ages of 30 and 39 years. The group between the ages of 50 and 59 years required the longest average hospital residence, namely 46 days. Death occurred in 5 or 4.46 per cent of these cases.

This method of treatment requires special equipment and a highly trained personnel. However, since the results compare so favorably with other series reported it is felt that hydrotherapy is an excellent means of treating delirium tremens.

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A COMPARATIVE STUDY OF NEGRO AND WHITE ADMISSIONS TO THE PSYCHIATRIC PAVILION OF THE CINCINNATI GENERAL HOSPITAL.

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I. Introduction.

The negro is only four generations from "savage" life, only two generations from rural life. Because of this heritage, the change from accustomed mores, the new competition and complexity of city life, and the humiliation of racial prejudice and color distinctions, the negro should suffer more psychotic reactions than the white man.

The negro, it has been maintained, is by nature "different." Lay literature and popular opinion have never agreed on what these differences between colored and white men really are, but some of the more important characteristics popularly accepted as being qualitatively or quantitatively different have been:

1. The limitations of his intelligence and the simplicity of his ideation.
2. His capacity and willingness to do labor.
3. His spiritualism and religious fanaticism.
4. His emotional tone, depth and stability.
5. His capacity for peculiar music, and for reactions in general grouped as "artistic."

This review of a year's admissions to the psychiatric pavilion of the Cincinnati General Hospital between June 1, 1936, and June 1, 1937, includes the quantitative comparison, and an attempt at qualitative interpretation, of psychotic reactions in colored and white patients as gleaned from hospital records. If the negro has innate psychological qualities which differ from the white man, he will react differently to the same environment, because of a differing constitutional pattern. Thus the significance of what we may find in an analysis of admissions to determine differences in reaction trends, in "color" of the psychoses, necessarily depends on the validity of the assumption that the colored man is to begin with innately of different composition from that of the white man.

We have called these differences lay-wise and popular. If they exist, we must expect according to psychobiologic concepts, a difference in psychotic reactions. If innate contrasting characteristics do not exist, then the black man's reaction on failing to adjust should be similar to that of the white man, and if our observations show gross differences of reaction, such differences must be due to gross differences in the environment, in the experiential, social and controllable existence of the colored man.

Of all the disputed native differences between negroes and white, intelligence can be most readily measured. The group tests made during the World War, despite their attested unfairness, credited Northern negroes of some states with better averages than Southern white officers. It is accepted that negroes on the average test lower than whites; but that the results of these tests are strikingly affected by social, economic and educational factors is unquestionable. Kleinberg's monograph on "Negro Intelligence and Selective Migration" [1] collects ample experimental data to show that an elevation of "intellectual level" occurs with an improvement of environment. For instance, Southern 10-year-old colored girls, migrant to Harlem, after four years' residence in New York City have an increase of their average I. Q. as measured by the Stanford-Binet test from 81.8 to 94.1, and New York born 10-year-old colored girls average 98.5. Tests given to colored children of some rural counties in Georgia and Alabama show according to Kleinberg, a "close correspondence between the standing of various counties in their tests and the per capita expenditure for the education of negro children." Observations by anthropologists on the native African negro mind also indicate the improbability of the existence of any general inferiority.[2, 3] Such studies indicate that there is probably no appreciable difference between latent intelligence of negroes and whites and that with the elimination of social, economic and educational handicaps, an apparent intellectual "inferiority" as evidenced by the results of psychometric tests will disappear.

There is much less basis for argument that the negro differs physically from the white man and that therefore he is more or less capable of skilled or hard work, or that his morphological characteristics and physiognomy indicate that he is inferior to the white man and therefore less capable of adjusting to the white

man's civilization. There is no apparent relationship between physiognomy and psychological characteristics, between pigmentation, thickness of the lip, coarseness of the hair, width of the nose or height of the brow and intelligence.[4] To say that the relative dolichocephaly of the negro implies less intelligence than the white man's or less capability of culture, is as dangerously incorrect as to imply that woman is natively inferior to man because of her relatively smaller brain. Grossly and microscopically there is no difference between the negro and white brain.[5] To imply that the negro is natively lazy, that he insists on day dreaming of yesterday's leisure in Africa and tomorrow's Green Pastures, is to project our own wistful wishes and neglect history's record of his turbulent painful introduction, and hard earned gains, in our own civilization.

A more interesting dispute concerns the less tangible qualities of the negroes' spiritual and emotional characteristics as they manifest themselves in his art, music and religious habits. Our critical estimation of these entities can be for the most part only subjective value judgments, depending on the standards given us by our own culture. There is besides ample anthropological and ethnological evidence to show that the emotional behavior and artistic production of a race depend on their culture heritage, and no certain evidence that manifest differences in such expression are due to some indefinable, innate, psychological difference between races.[6, 7]

The mode and vehicle of expression depend on the culture, the accumulation of tradition and experience an individual finds in the race from which he springs. Even the deep seated "instincts," traditions, mores, find variable expression in different races, in different tribes of the same race, in different levels of the same tribe,[8, 9] The customs and laws which guide and limit such expression vary with experience and necessity. We can find countless examples of such change within our own race, in our own generation. Pacifists become warriors, alcoholics become prohibitionists, and a woman at a bar is no longer the indication of an opportunity.

The peculiarities of the negro in Alabama, Tennessee or New York are not racial but cultural. Their analogues and prototypes can be found in the share-cropper, the hill-billy and the Broadway dandy.[10] They have demonstrated their ability to adapt to any

type of culture, given the economic and educational opportunities, and add to this culture the zest, originality and vigor of a race able to tolerate three generations of slavery, the transition which emancipation required, and still give to art and music an unquestionable impetus of refreshing creative forces.[11, 12]

Therefore, the available evidence, looked at objectively without the distortion of our acquired emotional reactions, indicates no innate hereditary difference between the negro and white man, with respect to his mentality, his instinctual expression, his potential adaptability. After all the greatest so-called races, Aryan, Mediterranean, Caucasian and Yellow, on occasions not infrequent to each generation, demonstrate an ability to regress to that degree of decorticated behavior never exceeded, at least within historical times, by the black man. If anthropology, sociology and history fail to save the vanity of the white man, perhaps psychiatry can help. Perhaps their behavior on the psychopathic ward, where the extremes of instinctual expression and the dishabilitation of the personality can be studied, will indicate the existence of reaction trends distinctive to the colored man.

II. Analysis of Total Admissions to the Psychiatric Pavilion of the Cincinnati General Hospital. July 1, 1936, to July 1, 1937.*

The psychiatric pavilion of the Cincinnati General Hospital enjoys a unique relation as a psychiatric unit to a city. The only other available depots for the emergency hospitalization of white patients

* New admissions of resident white psychoses to the Cincinnati Sanitarium and the Good Samaritan Hospital for the year July 1, 1936, to July 1, 1937, were as follows:

Alcoholic psychoses	2
Paresis	1
Schizophrenia	3
Senile-arteriosclerosis	5
Involutional	5
Manic-depressive	7
All others	5

Admissions to a private nursing home which takes some of our local psychotic patients were few and could not be included because of the uncertainty of diagnoses and patients' status as to previous admissions and residence.

needing psychiatric attention are in the Good Samaritan Hospital and the Cincinnati Sanitarium. These constitute only a very small outlet of resident white patients which might during the year avoid temporary commitment and observation on the psychiatric ward prior to permanent disposition.

Almost all cases tried in the County Probate Court on a lunacy charge are first hospitalized in the psychiatric pavilion. Also the police courts, city and county jails and the various social agencies transfer to us all cases in which mental disorders are suspected. Admissions to the pavilion is often sought by those who by hearsay, experience, or the advice of their private physicians have learned about this branch of the General Hospital. The psychiatric ward is even used by families to incarcerate temporarily their irascible relatives, perhaps for trifling reasons. The hospital at large uses the psychiatric staff frequently for consultations and subsequent

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The annual incidence in Cincinnati of new resident admissions to private hospitals admitting white patients constitutes at the outermost about 10 per cent of total white admissions with major psychoses.

The addition of these figures to our own total admissions, to determine the incidence of various psychoses for the population at large, does not materially change the annual incidence as estimated by admissions to the psychiatric pavilion of the Cincinnati General Hospital. Additional factors of error are due to varying diagnostic standards, particularly for the inorganic psychoses, to the uncertainty in some cases of residential status, and to the inability to determine whether previous admissions to other private sanatoriums had occurred. It seems preferable to assume simply that our hospital incidence of white admissions with psychoses is slightly less than that actually existing for the general population.

After including cases of white psychoses disposed of elsewhere, without first being observed on our psychiatric pavilion, we find no appreciable change in the relations of white to colored admissions. The manic depressive group becomes less predominantly black and the relatively greater incidence of involutional psychoses in the white population is emphasized.

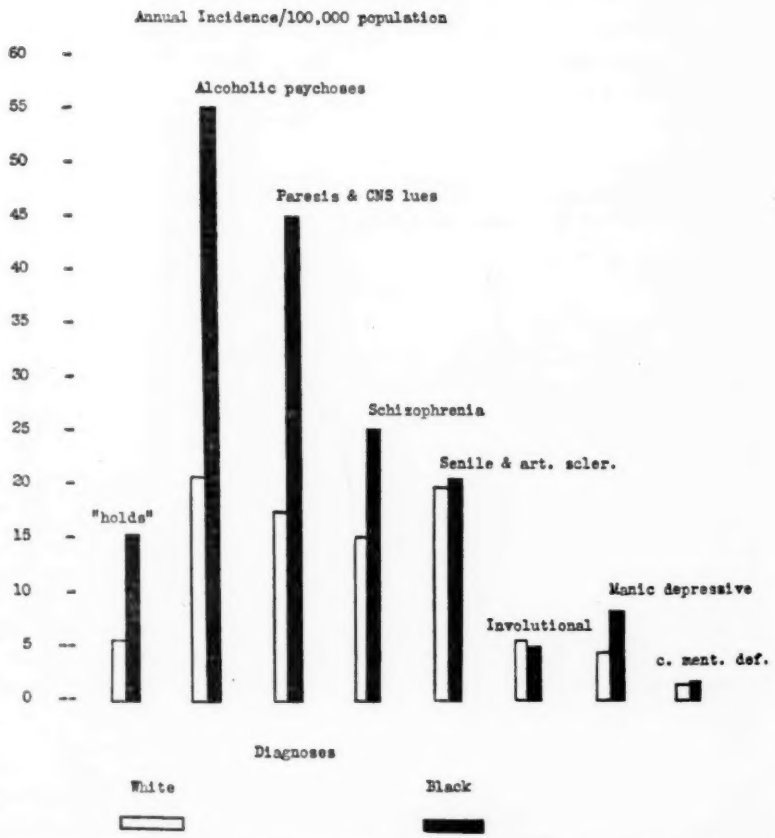
The incidence of psychoses can probably only be roughly approximated. A psychotic reaction, like syphilis, is frequently overlooked and variously diagnosed. Its occurrence, and the disposition of the patient, is often deliberately obscured because of the associated stigma. In Cincinnati where the only available immediate disposition for all the colored cases is the psychiatric pavilion of the Cincinnati General Hospital, in which about 90 per cent of white patients with psychoses seek temporary hospitalization, we believe we are in a position to make a fair approximation of the actual incidence of psychoses among both negro and white sections of the general population without the inclusion of resident cases not directly observed and diagnosed by members of our own staff.

transfer of patients. Therefore the psychiatric pavilion of the Cincinnati General Hospital is the recipient and point of observation of the psychiatric problems of almost a half million people, and thus can offer indices of the incidence of such problems in the City of Cincinnati. The fact that all doubtful cases are seen by the same staff psychiatrists, and that the standards for diagnoses are uniform, lends validity to a comparison of diagnoses according to color.

All non-residents, and all patients who had a previous admission with a similar diagnosis before July 1, 1936, were excluded from our computations. The "Total New Resident Admissions" for each diagnostic group was determined and then corrected to incidence per 100,000 population. The present total population of the City of Cincinnati is approximately 475,000, white 88 per cent or 418,000; black 12 per cent or 57,000. Thus although during the year there were 89 new white admissions with alcoholic psychoses, the annual incidence per 100,000 population is only 21.3. The 32 colored admissions with alcoholic psychoses actually indicate an incidence of 56.1 per 100,000 negro population. It is obvious therefore that the only valid comparison between colored and white admissions can be made by correcting admissions to annual incidence per 100,000 population.

A comparison of the rate of admissions for the major psychoses is illustrated in Graph I. These are the only diagnostic groups wherein we believe our ward population can furnish an index to the annual incidence of the psychoses for the City of Cincinnati. Where the number of admissions dwindles to small figures, the estimated incidence loses statistical validity but still remains of important comparative value. The minor psychoses, epilepsy, suicides, etc., find treatment at many different locations throughout the hospital and City. Therefore we do not offer them as indicative of their actual incidence and include them in the table of admissions only because they emphasize the greater annual incidence of negro admissions for all reasons.

Alcoholic psychoses and central nervous system syphilis are seen to be the most prevalent causes for admission, to collectively equal almost all the other psychoses combined, and to be about 2.5 times more frequent in negroes than in whites. Undoubtedly a



GRAPH I.—Incidence of Negro and White Admissions to the Psychiatric Pavilion of the Cincinnati General Hospital, July 1, 1936, to July 1, 1937.

few white cases of delirium tremens find treatment elsewhere in the city, whereas negroes must be treated at the General Hospital. However, there is so marked a discrepancy between colored and white admissions for all the alcoholic psychoses that the negro must be credited with a much greater predilection for this disease. In both groups the male admissions exceed the females, but the negro female appears more susceptible to the alcoholic psychoses than the white female. Thus for the whites the ratio of male/female

TABLE I.

TOTAL NEW RESIDENT ADMISSIONS TO THE PSYCHIATRIC PAVILION OF THE CINCINNATI GENERAL HOSPITAL, JULY 1, 1936, TO JULY 1, 1937.

	White.		Black.	
	No. cases.	Incidence/ 100,000.	No. cases.	Incidence/ 100,000.
Psychotic "holds"	26	6.2	10	17.5
Alcoholic psychoses	89	21.3	32	56.1
Paresis and CNS lues	77	18.4	30	52.6
Schizophrenia	68	16.2	15	26.3
Senile and art. scler.	85	20.3	13	22.8
Involutional	27	6.4	3	5.2
Manic-depressive	20	4.7	5	8.7
Psychosis with mental deficiency	7	1.6	1	1.7
Epilepsy	16	3.8	10	17.5
Mental deficiency (sine psychosis)	26	6.2	10	17.5
Hysteria	14	3.3	1	1.7
Neuroses	16	3.8	3	5.2
Psychopaths	58	13.8	11	19.2
Suicidal	49	11.7	11	19.2
Opium addiction	11	2.6	2	3.5
Blood Kahn positive	116	27.7	83	145.6

admissions is almost 30/1; whereas among the colored the ratio is only about 3/1. Delirium tremens exceeds all the other alcoholic psychoses by about 3/1 in the whites and 5/1 in the colored.

The greater incidence among Cincinnati negroes of syphilis of the nervous system is indicated in the graph and elaborated in the following table. In the diagnostic group "All CNS luetics" we include in the totals all cases of central nervous system syphilis both with and without psychoses. Patients "without psychoses" according to our hospital records make up less than half of both colored and white admissions with central nervous system syphilis and do

not alter the relative ratio of admissions between the negroes and whites. Thus for all new resident admissions the incidence of CNS syphilis with psychoses per 100,000 population is 2.8 for whites and 17.5 for negroes.

The relatively greater incidence of paresis compared to other central nervous system involvement among the white admissions is apparent. Thus among the total white admissions paresis seems

TOTAL ADMISSIONS WITH SYPHILIS OF THE CENTRAL NERVOUS SYSTEM.

	White.		Black.	
	No. cases.	Incid./ 100,000.	No. cases.	Incid./ 100,000.
Paretics	57	13.8	13	22.8
All CNS luetics	19	4.5	17	29.8
CNS luetics with psychoses	12	2.8	10	17.5

to be three times more common than all other syphilitic involvement of the central nervous system. Among the negroes there was a slightly greater number of admissions with syphilis of the central nervous system than with paresis. A paretic colloidal gold sol curve seems to be an infrequent finding particularly in colored females with central nervous system involvement. The two colored females diagnosed clinically as paretics had colloidal gold curves in 2d and 3d zones.

TOTAL NEW ADMISSIONS WITH INORGANIC PSYCHOSES.

	White.		Black.	
	No. cases.	Incid./ 100,000.	No. cases.	Incid./ 100,000.
Schizophrenia	68	16.2	15	26.4
Manic depressive	20	4.7	5	8.7
Involutional	27	6.4	3	5.2

In the senile and arteriosclerotic psychoses the negro also seems to have a slightly greater incidence. Male admissions slightly exceed the females in this diagnostic group for both colored and white patients.

As in the organic psychoses the incidence among negroes of the inorganic or "functional" psychoses is greater than among whites. In both white and colored groups the females have a greater number of admissions than males for the schizophrenic, manic-depres-

sive and involutional psychoses. Of the manic-depressive group four of the five negro cases were manic. In the white patients a depressed trend appears to be more common.

The "psychotic holds" included in Table I and Graph I are cases held by court order for disposition to the State Hospital. These patients were not observed long enough to warrant classification according to diagnoses. In this group also the negroes were much more numerous.

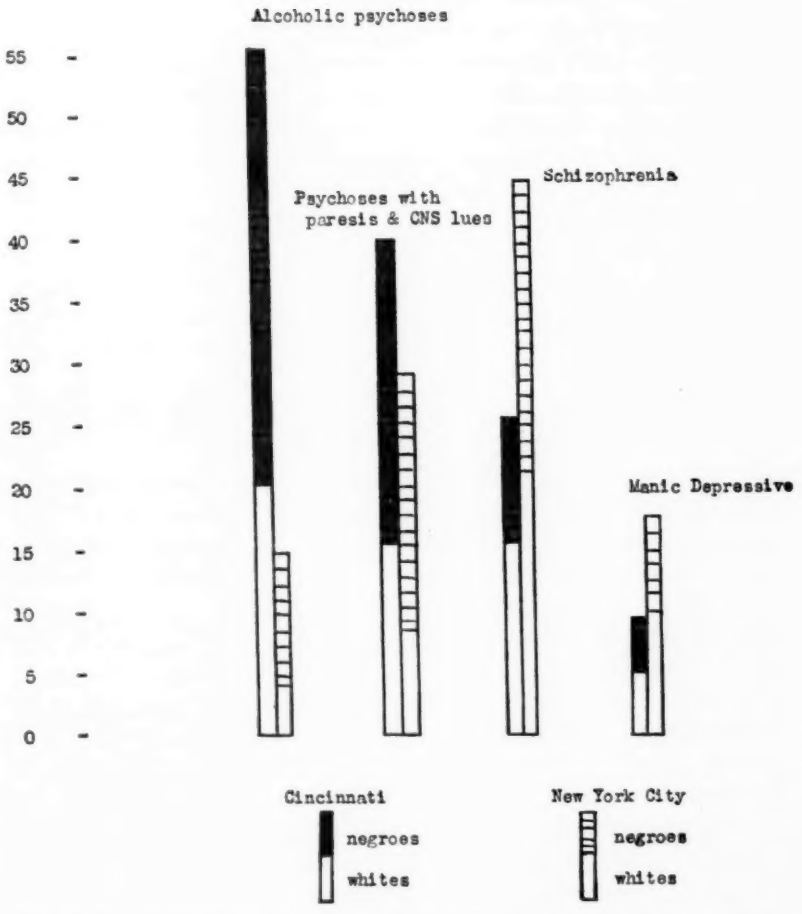
Estimating all admissions with psychoses the incidence for white patients is 95.1 and for negroes 189.2, the colored population having an incidence of psychoses twice as great as the white.

III. Comparison of the Estimated Annual Incidence of the Psychoses in Cincinnati with that in New York City.

The incidence of mental disease among negroes and whites in New York State was determined in 1935 by Malzberg in a survey of admissions to all state hospitals in New York over a period of two years.[13] A comparison of our own with Malzberg's figures for the admissions from New York City is tabulated in Table II and graphically illustrated in Graph II.

We find that our own study has corroborated Malzberg's very complete demonstration of the greater incidence of psychoses among negroes than among whites. Malzberg found the annual rate of admissions to New York state hospitals from New York City to be 150.8 for the colored population, and 75.1 for the white population, a comparative incidence of 2/1. We find that the annual incidence for all psychoses in Cincinnati as indicated by admissions to the psychiatric pavilion of the Cincinnati General Hospital exceeds the incidence in New York City, but a more interesting and significant difference exists in the relative occurrence of organic and inorganic psychoses in the two cities.

An examination of the graph illustrates well the remarkable discrepancy between our own admissions with organic and functional psychoses and those occurring in New York City. In Cincinnati alcohol and luetic involvement of the central nervous system exceeds as a cause of psychoses in both negroes and whites the incidence in New York City, and this by a wide margin. The New York negroes still retain a preponderance of admissions as com-



GRAPH II.—Comparison of Annual Admissions with Organic and Inorganic Psychoses among Negroes and Whites in Cincinnati and New York City.

pared to New York whites, but compared with our own population apparently have about 1/4 the negro psychoses with syphilis. A similar discrepancy is apparent in comparing the white admissions with organic psychoses. We apparently have almost five times as many white paretics and alcoholic psychotics as occur in the larger city. Possibly the inclusion of delirium tremens in our estimation of total alcoholic psychoses as compared with the alcoholic psychoses in New York City, is not warranted because of the short duration of this disorder. The analysis in New York did not include a breakdown of this diagnostic group. However, even

TABLE II.

COMPARISON OF THE ANNUAL NEGRO AND WHITE ADMISSIONS TO THE PSYCHIATRIC PAVILION OF THE CINCINNATI GENERAL HOSPITAL, WITH THE NEW YORK STATE HOSPITAL ADMISSIONS FROM NEW YORK CITY (MALZBERG).

	Cincinnati. Annual incidence/100,000.		New York City. Annual incidence/100,000.	
	White.	Black.	White.	Black.
Alcoholic	21.3	56.1	4.3	15.1
Paresis	13.8	22.8	7.5	24.6
CNS lues with psychoses	2.8	17.5	0.7	4.3
Schizophrenia	16.2	26.3	22.4	45.4
Senile and art. sclerotic	20.3	22.8	15.9	17.6
Involutional	6.4	5.2	1.6	.4
Manic-depress.	4.7	8.7	10.5	18.1
With ment. def.	1.6	1.7	2.0	5.6
Incidence for all psychoses	95.1	189.2	75.1	150.8

excluding this group a preponderance of organic psychoses for our own population still exists.

On the contrary the functional disorders, schizophrenia and manic-depressive psychoses, are apparently more prevalent in New York City, and this is true for the white population as well as the negroes. The incidence of schizophrenia among the New York negroes is 45.4, and among our own negroes 26.3. The white schizophrenic group shows 22.4 for New York and 16.2 for Cincinnati. Of the manic-depressive psychoses there is apparently twice the incidence among both New York negroes and whites than we find in our own population.

It is interesting to speculate on the causes of a lesser incidence of organic psychoses in New York City and a greater incidence of

the "functional" psychoses than we find in our population. In regard to the excess of negro to white admissions Malzberg states, ". . . . there can be little doubt that their high rates of first admissions with respect to general paralysis and alcoholic psychoses can be related, in large part, to deleterious social surroundings."

Of the excessive rates of dementia præcox and the manic-depressive psychoses among the negroes, he says: "It is difficult, however, to explain dementia præcox and the manic-depressive psychoses in terms of purely environmental factors, though it is sometimes asserted that the change from the warm climate of the south to the rigorous winter of the north does facilitate a mental breakdown. There probably is a less stable, more emotional make-up among negroes than among whites. Negro music, as seen in spirituals, blues, and jazz clearly points to such characteristics. Given such emotional instability it is likely that there is fruitful ground for functional mental disorders."

These comments are too inadequate a conclusion to the most detailed statistical analysis of negro and white psychoses that we were able to find in the literature. There is no definite evidence that negroes are less stable emotionally than white men, or that New Yorkers, both colored and white, have a greater emotional lability than the population of Cincinnati, and therefore a greater incidence of the functional psychoses. Nor is there any reason to believe that a change of climate is anything more than a minor and incidental factor in the development of psychotic symptoms. The more exacting, complexly integrated society such as exists in a large metropolitan city, has a more telling effect on both whites and negroes as manifested by the relatively greater incidence of the functional psychoses. Further all migrant groups appear to be more liable to "functional" reactions during the period through which they are learning to adjust to new standards and strange customs.[14, 15] The less culturally and socially exacting the environment, the less might we expect psychobiologic maladjustments which may manifest themselves in psychotic reactions.

The prevalence of the organic psychoses accompanies the prevalence of alcoholism and syphilis, and an increased incidence of the latter is an indication of less restraint, and the degree of restraint is culturally determined. In a city such as Cincinnati where 1/4 of the total unemployed group are negroes, where 85 per cent of the

negroes live on incomes considered inadequate to maintain a minimum standard of living,[16] where the negro mortality rate from all causes is nearly twice the white rate,[17] we cannot be surprised or perplexed on finding among them a preponderance of psychoses due to organic disease compared with the more favorably situated whites. If the incidence of the organic psychoses is greater among both negroes and whites of Cincinnati than among the population of New York, we may expect that we spend less on education, recreation and health, than is spent on the more favorably situated citizens of New York City.*

Given time and the cultural opportunities the negro may adapt himself to the white man's standards, and approach perhaps the incidence of functional and organic psychoses as they occur in the white race.

IV. Consideration of Possible Qualitative Differences in Negro and White Psychotic Reactions.

We have demonstrated a quantitative difference in the psychotic reactions of negroes and whites, and have reasoned that this difference is the result of environmental and cultural experience. However, the possibility of the negroes' reaction being qualitatively different still exists. Our diagnostic nomenclature such as "schizophrenia" covers a great group of phenomena some of which may be predominant enough in the negro to say that the "color" of his psychotic reaction is peculiar to him as the member of a different "race." With the uncovering of inhibition and the distortion and exaggeration of instinctual wishes as occurs in psychotic reactions, is there manifested in the negro a greater religiosity, a more pronounced tendency towards sexual deviation and violence, possibly particularly towards white women—all qualities which the white race has in the past attributed to the negro? Should we expect also

*(From scattered sources we offer the following evidence:

1. Mortality. White rate/1000: N. Y. C. 11.4; Cincinnati 15.0. Colored rate/1000: N. Y. C. 15.5; Cincinnati 24.1—U. S. Census.
2. Education. Cost of educating a public school pupil (1934): N. Y. C. $108.33; Cincinnati $91.50—World Almanac.
3. Recreation. Cincinnati spends 20¢/capita. Chicago spends 50¢/capita. N. Y. C. undetermined.)

some evidence of the effects of color distinction and persecution, perhaps hallucinations or delusions concerning color, more evident manifestations of fear and suspicion, and the development of paranoid delusions concerning the intentions of his white masters, with resultant relatively greater degree of resistiveness and negativism? All negro records for one year which contained an adequate description of these and other phenomena were carefully inspected. The presence or absence of pertinent characteristics were noted and a card for each admission indexed, not according to final diagnoses, but according to probable etiology: organic, toxic, functional.

We are not tabulating our statistics for this study because there was a paucity of cases with complete recordings of positive and negative findings. However, the examination of about 100 fairly complete hospital records of negro admissions with psychoses revealed no prominent or peculiar characteristic in the negroes' psychotic reaction. There was no unusual degree of religious "coloring" or paranoid phenomena. Among the cases of delirium tremens the type of reaction recorded was not different from the apprehension, occasional fearfulness and visual hallucinations of white patients. Demonstration of dysinhibition or hostility was infrequent for all diagnostic groups.

Regardless of the relatively small number of the negro cases studied in this manner, one cannot help being impressed after reading the individual records, by the absence of any quality which could be considered negroid. Yet we cannot overlook the observations of men with longer experience who have the impression that the negro psychotic reaction is more apt to be bizarre, religious and transitory. The entire problem warrants a surveyal of a much larger number of cases. We hope to determine the admission rates over a period of years and to compare cases with a nomenclature and descriptive terminology that will offer no question of the characteristics denoted. Even if such a technique warrants no change in the conclusions of this present study, that the negro psychoses are appreciably greater in incidence but otherwise fail to differ from the psychotic reactions seen in white men, there may still exist variations in the psychodynamics of individual reactions, the contrast among which will not be revealed by the detailed enumeration and comparison of signs and symptoms.

V. Conclusions.

1. There is little evidence to indicate that there is an hereditary, innate, psychological difference between "races." There is much proof that individual reactions in both white and colored groups are culturally determined and modifiable.

2. Study of a year's admissions to the psychiatric pavilion of the Cincinnati General Hospital shows a marked preponderance of psychoses among negroes in all diagnostic groups except those occurring in later life, such as the involutional, and arteriosclerotic-senile reactions.

3. This study corroborates a similar finding by Malzberg who found the total annual incidence of psychoses among negroes in New York City to be twice that among whites.

4. There is a greater annual incidence of psychotic reactions considered "functional" or "psychogenic" (the schizophrenic and manic-depressive group) among both colored and white residents of New York City (Malzberg) than among colored and white residents of Cincinnati. Of the organic psychoses Cincinnati has a much greater apparent incidence, both among negroes and whites.

5. An analysis of the individual records of negro admissions with psychoses during one year indicates no characteristic reaction trends or "coloring."

6. The preponderance of psychoses among negroes is probably of environmental origin.

7. Study of a year's admissions to the psychiatric pavilion of the Cincinnati General Hospital presents no evidence that psychoses among negroes offer any fundamentally different problems of etiology, diagnosis, psychotic manifestations, or prophylaxis from those of psychoses among white men.

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THE MORBIDITY INCIDENCE OF DEGENERATIVE SOMATIC DISEASES IN PSYCHOTICS IN COMPARISON WITH THE SAME TYPE OF DISEASE IN COMPARABLE AGE GROUPS IN CIVIL LIFE.

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The purpose of this paper is to discuss the question whether the incidence of such conditions as hypertension, heart diseases, arteriosclerosis, nephritis and other degenerative diseases, is less among psychotics than in civilian groups of the same age, having in mind the prevailing opinion that these somatic diseases are aggravated, if not precipitated, by the social and economic "stress and strain" of modern living—an opinion expressed in the famous words of Montaigne: "Men do not usually die; they kill themselves."

The vitality, morbidity and mortality of human beings is directly dependent upon such cardinal factors as habits of work, exposure to infectious diseases, heredity, diet, recreational indulgences, climate, race, economic status and occupation or profession. It is an established fact that the metabolism of an individual is pathologically disturbed by irregularities in dietary habits, insufficient rest, emotional anxieties arising out of occupational and domestic frustrations, all of which tend to exhaust the neurocirculatory system. The tempo of modern living, resulting from a survival of the fittest competition, is held to be responsible for provoking the premature onset of cardiovascular renal symptoms leading to degenerative disease. The assumption might naturally follow therefore that the psychotic is fortunate in that his institutionalization acts as a physical therapeutic sedative, arresting the progress of whatever coexisting somatic condition he may have.

A. Incidence of Degenerative Diseases in Veterans Hospital, Marion, Indiana, Among Psychotic Patients.

A statistical survey was made covering a five year period of hospitalization at this Facility, relative to the morbidity, age and

mortality incidence of arteriosclerosis, heart and kidney diseases among our psychotic patients, as shown in the following tables.

Table 1 shows a total of 558 patients under hospitalization for mental disease during the years 1931-1935 inclusive, who had one

TABLE 1.

MORBIDITY INCIDENCE OF THE DEGENERATIVE DISEASES DURING THE FISCAL YEARS 1931-1935 INCLUSIVE.

Arteriosclerosis	188
Local, cerebral, general, unclassified and vascular hypertension.	
Cardiac disease	294
Cardiac hypertrophy, myocarditis, endocarditis, pericarditis, coronary disease, valvular heart diseases and cardiac arrythmias.	
Nephritides	76
Acute and chronic parenchymatous, chronic interstitial and unclassified.	
Total	558

of the degenerative diseases as coexisting disability; approximately one half of the 558 patients suffered from a cardiac disease, one third from arteriosclerosis and the smallest group (76) comprised the nephritides. The average annual number of patients hospitalized for a mental disease was 1,419.

TABLE 2.

DISTRIBUTION OF DEGENERATIVE DISEASES ACCORDING TO AGE GROUPS, DURING THE FISCAL YEARS 1931-1935 INCLUSIVE.

	Age.							
Disease.	Under 20.	20-39.	30-39.	40-49.	50-59.	60 and over.	Age unknown.	Total.
Arteriosclerosis	..	..	18	59	39	67	5	188
Cardiac disease	..	3	68	135	42	31	15	294
Nephritides	..	1	15	27	20	9	4	76
Total	..	4	101	221	101	107	24	558

The above table reveals the fact that in the arteriosclerotic group the greatest majority of patients (67) were over 60 years of age while 59 of the 188 were between the ages of 40 and 49; in the cardiac group the largest percentage (135) were between 40 and 49 years of age; 68 of the 294 were between 30 and 39 years of

age; in the last group (nephritides) 27 of the total number of 76 were between 40 and 49 years of age, while 20 were between 50 and 59 years of age; 221 or 39 per cent of the 558 patients with degenerative diseases were between 40 and 49 years of age; 101 or 17 per cent were between the ages of 30 and 39, 50 and 59, and 60 and over. Degenerative diseases among psychotic patients were found to be most prevalent in the 40 to 49 age group and next most prevalent in the 60 and over age group.

In a compilation of autopsy findings in 577 white and 94 colored patients who had been under treatment for heart disease in one of

TABLE 3.

INCIDENCE OF DEGENERATIVE DISEASES IN CONTRAST TO THE TOTAL NUMBER OF PATIENTS UNDER HOSPITALIZATION DURING THE FISCAL YEARS 1931-1935 INCLUSIVE.

	1931		1932		1933		1934		1935		Total	
Disease	* 1	† 2	1	2	1	2	1	2	1	2	1	2
Arterio-sclerosis ..	45	1355	33	1375	20	1376	41	1486	49	1494	188	7096
Cardiac disease ...	60	1355	59	1375	46	1376	56	1486	73	1494	294	7096
Nephri-tides	17	1355	9	1375	15	1376	20	1486	15	1494	76	7096
Total ..	122	1355	101	1375	81	1376	117	1486	137	1494	558	7096

* 1 = Total number of patients with degenerative disease.
† 2 = Total number of patients under hospitalization.

the veterans' hospitals, 34 per cent were under 40 years of age and 66 per cent were 40 years of age or over.

Table 3 shows 1355 patients hospitalized during the year 1931; 3.3 per cent of them belonged to the arteriosclerotic group, 4.4 per cent to the cardiac group and 1.2 per cent comprised the nephritides; 122 or 8.9 per cent of the 1355 mental patients had a degenerative disease as a coexisting disability.

In 1932 there were 1375 patients hospitalized; 2.4 per cent had arteriosclerosis; 4.2 per cent belonged to the cardiac group and .6 per cent came under the nephritides. One hundred and one patients had a degenerative disease out of a total of 1375 patients in 1932.

In 1933, of 1376 patients under hospitalization 20 (1.4 per cent) were arteriosclerotic, 46 (3.3 per cent) fell in the cardiac group and 15 (1 per cent) were classified under the nephritides. There were only 81 mental patients out of a total of 1376 with a degenerative disease.

During 1934 there were 41 patients with arteriosclerosis, 56 with a cardiac disease and 20 with one of the nephritides, a total of 117 patients out of 1486 under hospitalization.

In 1935 there were 49 cases of arteriosclerosis, 73 cases of cardiac disease and 15 with nephritides, a total of 137 patients with degenerative diseases in addition to their mental diagnosis out of a total of 1494 patients in the hospital.

Cardiac hypertrophy constituted the principal disability in the cardiac disease group.

TABLE 4.

MORTALITY INCIDENCE OF DEGENERATIVE DISEASES.

	1931	1932	1933	1934	1935	Total
Patients with degenerative diseases	122	101	81	117	137	558
Patients with degenerative diseases who died	3	10	10	16	17	56

Table 4 shows three deaths among 122 patients with a degenerative disease in 1931, 10 deaths among 101 in 1932, 10 deaths among 81 in 1933, 16 deaths among 117 in 1934 and 17 deaths among 137 in 1935.

There were 56 deaths among 558 mental patients with degenerative diseases during the five year period 1931-1935 inclusive.

The mortality incidence of degenerative diseases in 1931 was 2.4 per cent; in 1932 it was 9.8 per cent; in 1933, 12.3 per cent; in 1934, 13.6 per cent and in 1935 it was 12.4 per cent.

During the five year period 1931-1935, 10 per cent of the 558 patients with degenerative diseases died.

B. INCIDENCE OF DEGENERATIVE DISEASES IN CIVILIAN HOSPITALS AMONG NON-PSYCHOTIC PATIENTS.

According to a recent statement from the supervisor of record department, of a total of 9304 patients discharged from the Presby-

terian Hospital, New York City, during the year 1935, there were 833 or one of every eleven patients who had a degenerative heart or kidney disease. In 1935 according to Table 3 of 1494 mental patients institutionalized in the Veterans' Hospital, Marion, Indiana, 137 had degenerative diseases (the same ratio of one to every eleven patients).

Stone and Vanzant report a study of 915 cases of heart disease observed in all services of the John Sealy Hospital, Galveston, Texas, over a period of seven years. Among 10,188 patients examined in the medical division, 1660 had organic heart disease (included under heart disease were those cases manifesting persistent elevation in blood pressure, cardiac enlargement, cardio vascular renal cases, and cases with a senescent type of arteriosclerosis). These figures indicate that degenerative diseases occurred in a ratio of one to every six patients.[1]

"Authorities are agreed that the incidence of heart disease is increasing each year." [2] Chauncey Maher, Walter Sittler and Ralph Elliot have made a study of the etiologic factors in 1000 cases of heart disease in the Chicago area and concluded that there were 12 main groups of causes of heart disease; namely, rheumatic infection, hypertension, arteriosclerosis, syphilis, thyroid disease, pulmonary diseases, congenital causes, neurologic causes, toxic causes, traumatic causes, bacterial entities and unknown or unclassified causes.[2]

Selwyn Collins, senior statistician of the United States Public Health Service, last year found in a survey of 9000 civilians living in rural, urban and metropolitan areas of 18 states that heart and circulatory diseases constituted the most common cause of death but occupied eighth place as causes of sickness.

Chart 1 was exhibited at the scientific exhibit of the American Medical Association in Cleveland, Ohio, showing the mortality incidence of heart disease, nephritis and arteriosclerosis among the civilian population with a definite rise in heart disease mortality in ages over 46.

Dr. Nathan Flaxman, in a statistical survey covering a period of 18 months, from January 1, 1932, to June 30, 1933, found that of 95,629 patients admitted to the Cook County Hospital, Chicago, Illinois, 4600 (4.8 per cent) entered with a cardiac diagnosis.[3] A further study of these 4600 cases showed that only 1646 (1.7 per

cent) had definite organic heart disease. Fifty-four per cent came under the age group of 40 to 60; 90 per cent of these cases were due to hypertension, arteriosclerosis, rheumatism or syphilis; 38 per cent died in the hospital during this period.[3]

In an article on heart disease and public health, Herrmann discovered that arteriosclerosis, considered the primary chief degen-

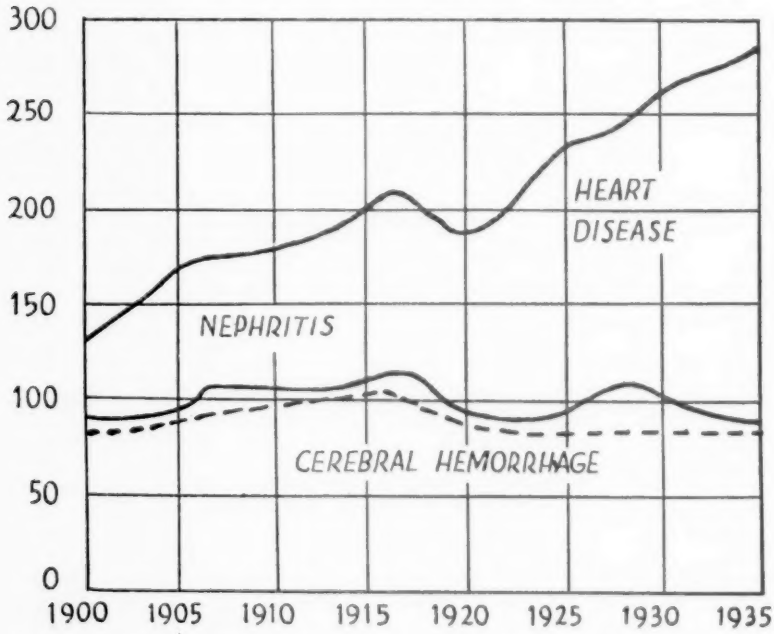

CHART 1.—Death Rates Per 100,000 Population, United States (10 Original Reg. States and District of Columbia).

erative disease, was the responsible etiological factor for 40 per cent of the cases of heart disease.[4]

As to the mortality incidence of degenerative diseases among non-psychotic patients in civil life, the Metropolitan Insurance Company concluded that the cardio-vascular renal diseases (heart disease, chronic nephritis, cerebral hemorrhage, arterial disease and angina pectoris) caused approximately 25 per cent of the deaths from all causes in their 20 year insurance experience, and that the mortality from these diseases increased with age, the largest percentage occurring in the advanced ages.[5]

SUMMARY.

1. The morbidity incidence of degenerative diseases among psychotic patients in our hospital, over a period of five years, was found to be less than the incidence of the same type of diseases in comparable age groups among non-psychotic patients in civil life.

2. Of a total of 7096 patients in the five year period, 1931-1935 inclusive, there were 558 cases of degenerative diseases (a ratio of approximately one to every 13 patients).

3. Of a total of 9304 patients discharged from the Presbyterian Hospital, New York City, in 1935, there were 833 cases of degenerative diseases (a ratio of one to every 11 patients).

4. Among 10,188 patients examined in the medical division of the John Sealy Hospital, Galveston, Texas, 1660 had a degenerative disease (a ratio of one to every six patients.)[1]

5. The largest percentage of degenerative disease among our psychotic patients occurred in the 40 to 49 age group.

6. In a statistical survey covering a period of 18 months from January 1, 1932, to June 30, 1933, of 95,629 patients admitted to the Cook County Hospital, Chicago, Illinois, Dr. Nathan Flaxman found that 54 per cent came under the age group of 40 to 60.[3]

7. Of 558 cases of degenerative diseases among our psychotic patients, over the five year period, 56 died (10 per cent mortality).

8. Of 1646 patients with a degenerative disease among 4600 cases admitted with a cardiac diagnosis in the Cook County Hospital, Chicago, Illinois, over a period of 18 months from January 1, 1932, to June 30, 1933, Dr. Flaxman reports a mortality of 38 per cent.[3]

9. It is evident that a functional relationship exists between the heart, blood vessels and kidneys, responsible for the so-called cardiovascular renal syndrome. Thus we can see how, for example, the degenerative changes in the blood vessels produce similar pathological changes in the heart and kidneys. As man goes through the several decades of life gradual progressive pathological changes occur in the arteries. The onset and rapidity of this process is dependent upon the individual's resistance as well as his mode of living.

10. The longevity outlook of the hospitalized mental patient suffering from one of the degenerative diseases is considerably

better than for the civilian ambulatory patient in the same age group because the former is spared the social and economic responsibilities that predispose to degenerative changes in the human body. He leads a sedentary routine institutional existence, deprived of strenuous physical exertion, receiving his meals at regular intervals and given ample amount of sleep and rest, as well as recreational and occupational opportunities, all of which is conducive to physical and mental health.

11. Our records show that the average estimated period of hospitalization for a mental patient is four to five years; those cases with a more favorable prognosis recover usually within one year. While it has been difficult to determine accurately the exact date of onset of their somatic disability, it is gratifying to state that encouraging results have been obtained in the treatment of degenerative diseases during the five year period of hospitalization, a contributory factor, undoubtedly, in the recovery of a good percentage of our mental patients.

I wish to acknowledge my appreciation for the invaluable assistance received from Misses Esther Bowers, Clara Barton, Eleanora Jones and Louise Pfister, in gathering the necessary statistical data; and I also wish to express my indebtedness to Miss Dorothy Kurtz, Supervisor of Record Department, Presbyterian Hospital, New York City, New York, and to the Library Service of the American Medical Association, without whose cooperation this paper could not have been written.

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MENTAL CHANGES IN CHOREA MINOR.*

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Several cases illustrative of chorea minor associated with varying degrees of mental changes have been collected and grouped according to the severity of the mental symptoms. In order to avoid confusion in terminology when speaking of chorea it is advisable at the outset to enumerate the different categories. Osler [1] found it useful to classify the affections known as chorea as follows:

1. Chorea minor. Sydenham's chorea.
2. Chorea major. Hysterical disorders of motion—first described by Paracelsus.
3. Secondary or symptomatic choreas, pre- and post-hemiplegic disorders of movement, so-called spastic chorea, congenital and chronic choreas, Huntington's chorea.

Osler mentions but does not classify *chorea gravidarum* which according to two observers [2] appears more commonly in women of early sexual maturity who were generally primipara; (2) 25 per cent of women with a history of chorea are likely to have a recurrence of it in subsequent pregnancies; (3) there is evidence of heart disease in one-third of the cases and of cardiac pathology in 87 per cent of autopsies; (4) mortality rate since 1900 (to 1932) is 12.7 per cent.

Kraepelin [3] in 1900 described a psychosis seen in chorea the outstanding features of which were senselessness and bewilderment. At a later date he repudiated this diagnostic suggestion and classified this syndrome under the heading of delirium due to infection. He believed that the agent producing chorea did not induce a specific delirium. Hammes [4] concluded from a series of 88 cases of Sydenham's chorea that 80 per cent showed no evidence of psychosis. He apparently believed that psychosis in chorea

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was incidental and not sufficiently characteristic to make a diagnosis of the etiology. Furthermore, Hammes believed that a history of chorea is only incidental in the development of psychoses later in life. A history of chorea occurs in only a small percentage of major hysterias and psychoses seen in older patients. However, other observers [5] found in patients having tics a history of previous chorea.

Kleist's [6] analysis of 154 cases of psychic disturbance in chorea is as follows:

1. Serious mental disturbance	41
2. Definite though mild psychosis (anxious, frightened, tearful, irritable, outbursts of anger, disobedience, diminished spontaneity)	92
3. No mental symptoms	21
	154

The mortality rate in serious mental disturbances was 20 per cent.

CLINICAL MATERIAL STUDIED.

The cases of chorea I am presenting are divided into three main groups:

I. Chorea with severe psychosis (8 cases).
   A. Chorea with psychosis and severe carditis (2 cases).
II. Chorea with mild mental disturbance (9 cases) (such as unexplained aggression, behavior problems, suicidal attempts).
III. Chorea without gross mental change (16 cases).

Chorea is a symptom frequently associated with heart disease.* It is common practice to associate the one as an aid in the diagnosis of the other. Osler states that the "apex systolic murmur heard in many cases of chorea is doubtless due to endocarditis." Furthermore "it is exceptional in chorea to find the heart healthy." [1] It is not surprising, therefore, that symptoms due to the carditis are often present. When the clinical picture is further complicated by a psychosis the symptoms associated with cardiac psychosis may for the time being obscure the choreic processes. The severe nature of cardiac psychosis is emphasized by one observer [7] who reported

* Criteria for the Classification and Diagnosis of Heart Disease approved by American Heart Association.

12 deaths in a group of 19 cases. When a disease is complicated by a psychosis the prognosis is less favorable. The mortality of chorea with severe psychosis is especially high, the carditis of course being a serious factor.

Group I: Chorea with Severe Psychosis (8 Cases).

Of the 8 cases in this group, 4 died: a mortality of 50 per cent. (One patient (B. D. G.) died following a remission of 4 months.)

GROUP I.

Chorea with Severe Psychosis.

	Color	Sex	Age	Carditis	Fever Therapy	Improved	Died	
S.F.	W.	F.	14	No	No	—	Yes	Diagnosis: Bronchopneumonia
D.S.	W.	F.	19	No	Yes	Yes	—	Chorea subsided; mild delusions subsequently disappeared
S.M.	W.	F.	16	No	Yes	—	Yes	
R.W.	C.	F.	24	No	Yes	—	Yes	
N.K.	W.	M.	20	Yes	Yes	Yes	—	Some improvement following therapy; transferred to state hospital; present condition good.
B.D.G.	W.	F.	23	Yes	Yes	—	Yes	Death followed "hot box" treatment
E.D.	W.	F.	24	No	Yes	Yes	—	
F.L.	W.	F.	22	Yes	Yes	Yes	—	
Total 8			20 (av.)	3	7	4	4	

Kleist's [6] severe group had a 20 per cent mortality and 2 of the 4 cases described by Lewis and Minski [8] died following symptomatic treatment.

The age of patients varied between 14 and 24 years; 6 were over 20. This is in contrast to the ages in Group II (Chorea with mild mental disturbance) where the age range is 8-21 years with only two patients older than 13. It hardly bears repetition to add that chorea minor without gross mental change (as described in Group III) occurs most frequently in late childhood and adolescence.

Osler * remarked that chorea was twice as common in females as in males prior to puberty and after this period a greater proportion of females is affected. He further pointed out that negroes were rarely affected. His observations were confirmed in chorea with severe psychosis: there was but one male in the group. Furthermore, only one negro was affected, *i. e.*, one in 8 patients.

Four cases (F. L., B. D. G., R. W. and N. K.) had a history suggesting previous rheumatic fever. Both R. W. and N. K. gave a history of alcoholism which might have been a predisposing factor. Psychologic trauma in 2 cases was perhaps provocative of the choreic state: fright caused by a bat (S. M.); separation from wife after the shock caused by knowledge of her syphilitic infection (N. K.).

One of the 8 cases was committed to a state institution. He (N. K.) was discharged to the community 6 months after admission to Bellevue Hospital and has made a good adjustment.

Group IA: Chorea with Psychosis and Severe Carditis (2 Cases).

Two women (P. W. and M. L.) aged 19 and 44 years respectively, were definitely psychotic. One had a subacute bacterial endocarditis; the other, rheumatic heart disease, auricular fibrillation and heart failure. The heart disease was in the foreground of the clinical picture making the prognosis poor even if the choreic process was disregarded.

Whether the symptoms described in the case of P. W. were due entirely to the cardiac element or whether chorea associated with severe psychosis played a decisive part cannot be definitely stated.

DISCUSSION.

The neurological signs pointing to a diagnosis of chorea are: (1) slight hypotonia; (2) characteristic quick movements which increase with any other bodily effort, especially speaking; (3) disturbance of associated movements; (4) adiadokinesis; (5) asy-

*Osler did not feel that there was any justification for considering "chorea insaniens of Bernt" as a distinct disease, although he realized its severe nature. He gives the history of 2 cases both of whom died after a stormy course.

nergia. The tendency toward increased pronation of the hands as described by Hoff and Schilder [9] was frequently helpful.

Even when the chorea is mild, quick movements of the hands and feet are a predominant feature. In severe choreas, the movements are generalized and hypotonia increases. Hypotonia may predominate and movements be lacking (limp chorea). Two of the severe choreas (S. M. and S. F. of Group I) are of this variety. In many of our cases, the choreic movements themselves were rhythmic.

Disturbances in impulse in chorea minor are of interest. Noticed frequently was an increase in impulse: for instance, rhythmic contractions of the leg muscles and also tonic contractions even in choreas of moderate degree (S. M.). The tonic reaction may follow the patella reflex, the so-called Gordon's symptom (F. L.).

The psychiatric status of these patients has been followed with emphasis placed on: (1) their state of consciousness: clouded or clear; (2) orientation; (3) mood; (4) hallucinations and delusions; (5) activity; hyperkinesis or hypokinesis; (6) influence of motility on thinking.

In 2 of the fatal cases (B. D. G.) (R. W.) there was clouding of consciousness at the height of motor excitement; at other times, incoherence predominated: both conceivably due to impulses interfering with the "normal chain of thought." In many of these patients there is no clouding of consciousness, even in the presence of severe psychotic manifestations. The majority appear vividly conscious of the change that has taken place in their body and its functions.

Emotional instability, irritability, sudden outbreaks of laughing and crying were characteristic.

Many patients had both visual and auditory hallucinations. Delusions were common—such as that of being considered ridiculous by others (R. N.). One patient (S. F.) felt that her body was fundamentally changed; her hands felt like rubber (the possibility of paresthesias caused by brain changes has been considered).

Akinetic patients may show resistance when effort is applied to rouse them (see S. F.), while those who are hyperkinetic may resist approach with increased activity like the patient R. W. in whom the hyperkinesis accompanied by almost complete inaccessibility dominated to such an extent that the diagnosis of chorea was

not at first entertained. Lewis and Minski [9] report a case in which a picture similar to hyperkinetic schizophrenia occurred before death.

When the hyperkinesis overshadows the other phenomena, as well as when hallucinations and delusions with clear consciousness are present, the symptomatic similarity to schizophrenia is often striking, but it should be added this resemblance is only superficial. The fundamental quality of chorea is the emotional instability as opposed to the regression and withdrawal found in schizophrenia. The individual with chorea is overwhelmed by an autonomous brain function which changes and interferes with his relation to the world, a relation which he would like to maintain, but is forced to forego. On the other hand, the schizophrenic illustrates primarily the tendency to give up his relation to reality. To judge from the presence of delusions and hallucinations and bizarre movements in both schizophrenia and chorea with psychosis it would appear as if there was similar or related interference with the mechanism involved in motor activity and in thinking.

Even in mild choreas, behavior is influenced by disturbances in motility as is seen in Group III. With psychotic involvement, however, the movements themselves may become atypical (hypotonia, tonic phenomena) or even intensified. Thus there is a relationship between the severity of the psychosis and the pattern of the chorea. Severe psychotic involvement with minimal choreic movements was witnessed in only one patient (*e. g.*, paranoid delusions with movement confined to the fingers) of whom the diagnosis of chorea minor has not been definitely established.

Fever therapy, consisting of triple typhoid vaccine in gradually increasing doses, was tried in 7 cases. One patient (B. D. G.) had supplementary "hot box" treatment. Both these methods have been described elsewhere.[10] Four patients (D. S., N. K., E. D. and F. L.) improved following therapy; the other three died. In only one patient (F. L.) did the mental picture clear up as rapidly as the motility disturbance. Another (N. K.) although mentally improved following the therapy relapsed and consequently was committed to a state hospital. Cessation of movements four months later accompanied by mental improvement resulted in his discharge. A third patient (D. S.) remained petulant even though fever therapy resulted in good muscular coordination. This patient had mild delusions which subsided. The fourth patient (E. D.) con-

tinued to show mental aberrations which took the form of self accusation: she insisted that she was the cause of the fracture cases brought to the wards.

Our conclusion must be, therefore, that fever therapy as employed in our patients with severe mental disturbances had no specifically beneficial effect. Whether the course of the illness was shortened in the few fever treated cases who survived cannot be determined with certainty.

GROUP II.

CHOREA WITH MILD MENTAL DISTURBANCES.

Case	Color	Sex	Age	Carditis	Improved	Died	
H.D.	W.	M.	10	Yes	Yes	—	
L.L.	W.	F.	13	?	Yes	—	
B.D.	W.	F.	10	No	Yes	—	
H.M.	W.	F.	11	Yes	Yes	—	Readmitted as behavior problem
G.P.	W.	F.	10	No	Yes	—	
K.B.	W.	F.	21	Yes	—	Yes	Peritonitis; incomplete abortion
J.L.	C.	M.	10	No	Yes	—	Readmitted as behavior problem
M.C.	W.	F.	8	No	Yes	—	
R.N.	C.	F.	16	No	Yes	—	
Total 9			12 (av.)	3	8	1	

(K. B.: Histological examination of the brain showed no evidence of encephalitis nor of leptomeningitis. There were no embolic phenomena nor nodules seen as in rheumatic fever.)

GROUP II: CHOREA WITH MILD MENTAL DISTURBANCE (BEHAVIOR PROBLEMS, ETC.) (9 CASES).

All the nine cases of this group presented typical motor features of chorea, varying in degree, but the mental disturbances were mild. No special neurological signs were characteristic. One patient who had an associated septic abortion died.

The ages of the patients varied between 8 and 21 years, with two older than 13. Two members of the group had carditis.

All patients with chorea always have associated mental changes, such as emotional instability, irritability and attacks of frequent

laughing and crying. In addition, the children of this group manifested behavior difficulties of such magnitude that they could not remain on a medical ward. One patient (J. L.) tried to jump off the roof. Others showed aggressive behavior and temper tantrums. Delusions originated from the feeling these patients had that their movements engendered ridicule. In some, the behavior disturbance persisted when the chorea was very mild or even after it had entirely subsided.*

In this group, alleviation of mental symptoms was more closely associated with physical improvement, as the cases of H. D., L. L. and H. M. demonstrated so spectacularly. Sometimes after fever therapy the affect was diminished; but greater emotional responsiveness returned after convalescence.

It is interesting to note that fever therapy was helpful in the treatment of behavior disturbances associated with the chorea. This is significant when we recall that there was no correlation between the intensity of motility disturbances and the severity of the mental changes. Apparently the behavior disturbances are not simply a reaction to the motor disturbances but are a part of the same general disturbance in brain function.

Group III: Chorea Without Gross Mental Change (16 Cases).

Sixteen children with chorea in the general wards of Bellevue Hospital were selected at random and observed during their hospital stay. Their ages varied between 7 and 15 years. In contrast to the two previous groups where boys were in a minority they constituted one-half of this group. There was one colored child who was not cooperative. When being questioned he would start climbing over the partition of the ward or would become aggressive.

All these children showed marked emotional instability such as irritability and increased tendency toward laughing and crying. The same fundamental behavior changes which we observed in the severe cases were dominant, but *not to the extent of disturbing the social adaptability of the individual.*

* For instance, one patient (J. L.) returned to the hospital 6 months after discharge as a behavior problem with no signs of chorea. We have seen conduct disorders of an impulsive type (not mentally defective) whose histories and physical examination gave no clue to the etiology of their ills save for a history of chorea.

Since many observers [11] have stressed personality factors as the main cause of the affection, we interviewed the parents of this group. No significant disclosures concerning behavior, personality of the children or family history were obtained which would support this view. Twelve of the children were either the only child, the youngest or the oldest. However of these 12, six belonged to families where there was but one other child.

SUMMARY.

1. Chorea minor was studied with special interest in its mental manifestations. Granted that we are dealing with the same fundamental syndrome, nevertheless for convenience in diagnosis and prognosis it was found helpful to classify our cases in 3 groups: I. Chorea with severe psychosis; II. Chorea with mild mental disturbance; III. Chorea without gross mental changes.

2. The mental changes in chorea are closely connected with disturbances in impulse. Emotional instability such as increased laughing and crying predominate. In the milder and uncomplicated cases there are no serious disturbances in thinking or in orientation; although behavior disturbances may offer a serious problem. In the severe cases, the hyperkinesis and akinesis influence thinking. Hallucinations and delusions often are present. In the more severe cases confusion and disorientation may supervene.

3. The motility disturbances of chorea and schizophrenia are occasionally similar but their respective mental pictures are distinct.

4. In these patients with severe mental symptoms atypical motor signs such as flaccidity, tonic and rhythmical phenomena were observed.

5. Severe mental symptoms were a grave prognostic sign and seen particularly in older patients.

6. Fever therapy did not prove beneficial in chorea with severe psychosis but was helpful in patients with minor mental symptoms and advantageous in the treatment of behavior problems associated with chorea.

I am indebted to Drs. Karl M. Bowman and Charles Hendee Smith, Directors, respectively, of the Psychiatric and Pediatric Divisions, Bellevue Hospital, for permission to use the clinical

material presented and to Dr. Douglas Symmers, Director of Laboratories of New York City, for permission to use a pathological report.

I wish to thank Drs. Paul Schilder, Normal Jolliffe, Lewis D. Stevenson and Lauretta Bender for their aid.

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RESULTS OF NON-SPECIFIC TREATMENT IN DEMENTIA PRÆCOX.*

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It seems advisable for any psychiatric hospital to make a survey from time to time of the results of treatment of its patients as shown by their condition upon leaving the hospital and their course for substantial periods afterwards. At the present time the results of hospital treatment of dementia præcox patients are of especial interest.

During past years reports of such results have been made by a number of investigators but these have been for the most part from public hospitals. Interesting results of the treatment of dementia præcox patients with insulin and metrazol are being reported at the present time largely from public hospitals. These reports stimulate one to an inquiry of whether the improvements achieved may be in part at least due to the intensive individual attention and treatment which it previously seemed not possible to give in the large public hospitals. In other words can intensive individual treatment by well-recognized psychiatric methods in a hospital equipped and organized for such treatment bring about as high a degree of improvement or recovery as is being reported from some hospitals from the use of insulin and metrazol? We

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The authors acknowledge with appreciation the generous cooperation of the many hospitals, physicians and others who, in answering inquiries, made this report of results posssible; and thanks are extended to Thelma Drewry and Mary Doyle for their assistance in compiling the numerous data of which this report represents a small part. Dr. Carney Landis of the New York State Psychiatric Institute and Hospital generously assisted in the preparation of the statistical tables.

designate these well-recognized methods of psychiatric hospital treatment for the purposes of this paper as "non-specific" forms of treatment to contrast them with the treatment by the use of insulin or metrazol without meaning to imply that the use of insulin or metrazol is necessarily a specific curative treatment of dementia præcox.

Further, if one finds that the use of insulin and metrazol is followed by a higher rate of improvement or recovery in dementia præcox than seems to result from the intensive individual treatment by non-specific methods in especially equipped hospitals, one might justifiably use the results obtained in such hospitals as representing a base line, with the degree or percentage of benefit above such a rate possibly to be credited to newer "specific" methods. That is, one might say: "We find that non-specific methods may be expected to accomplish certain results; if better results are obtained with insulin or metrazol, these 'specific' forms of treatment may have brought about these better results, as all of them apparently could not be achieved by non-specific treatment."

For these reasons, we have undertaken a study of the results obtained in 500 cases of dementia præcox treated by non-specific methods at the New York Hospital—Westchester Division, formerly known as Bloomingdale Hospital. It is the purpose of this paper to report statistically some of the findings of the study and to attempt to draw some conclusions.

The material studied consisted of 300 women and 200 men all definitely diagnosed by the medical staff as cases of dementia præcox. In order to provide a reasonably long period of observation, no patient admitted since December 31, 1935, was included. In order to make a group of 500 cases it was necessary to work back through consecutive dementia præcox admissions into 1926. Some of the patients had had a course of observation of 12 years therefore, and none less than two years.

Before reporting the results it may be well to outline briefly the setting in which this treatment, which we call intensive individual non-specific treatment, occurred. The hospital has 277 acres of ground with a nine-hole golf course and playing fields for men and women; a large gymnasium for each sex, with full equipment including bowling alleys; an occupational therapy building for each sex, with a variety of shops and classrooms; and hydrotherapy

and physical therapy facilities. A surgical suite and other facilities of a general hospital were available for treatment. A full-time dentist of long experience and a dental hygienist and chair assistant, provided dental care for all patients. Clinical laboratory studies were regularly made of all patients. Over the period of years in which the cases to be reported upon were admitted to the hospital, the hospital average population varied from 228 to 267 patients; the average for the 10 years was 248 patients. During the same period of years the medical staff, exclusive of the medical director, varied in number from 12 to 13 resident physicians who devoted their whole time to the care of these patients. Most of these physicians had had several years of psychiatric training and a number had had many years of such experience. The ratio of patients to nurses and attendants varied from 5.2 to 4 patients for each nurse or attendant. The average ratio during the years was 4.6.

In the occupational therapy departments eight women and six men, and in the physical education departments six women and three men, devoted their whole time during each of these years to the patients. Three specially trained women and one man gave their entire time to hydro- and physical therapeutic procedures. The dietary department provided any special diet prescribed.

Each patient had the advantage of examination by an attending internist, an ophthalmologist and an otolaryngologist. In addition the women were examined by an attending gynecologist and the men by an attending urologist. A consulting surgeon was always available. Any indicated treatment was carried out.

The high ratio of physicians to patients permitted intensive psychiatric investigation and treatment but Freudian psychoanalysis was not carried out. At conferences of the medical staff with heads of the treatment departments held each week day, the progress and régime of treatment of individual patients were discussed and closely followed.

With few exceptions, the patients' accommodations were single rooms in halls with capacities of from 10 to 20 patients, or in cottages, these halls and cottages providing nine classifications for each sex. This number of classifications made it possible to group the patients satisfactorily according to their conditions. Patients who were considered capable of benefiting by it had the additional treatment facilities of the beach and lodge maintained by the

hospital on Long Island Sound, staying there for a week or two or going on day parties during the summer.

This brief outline may indicate that the patients were afforded facilities for intensive treatment which the majority of psychiatric hospitals may not find it possible to provide.

A few words may be added regarding the selection of patients for admission. The hospital, a private charitable institution, and not a private proprietary or public hospital, selects its admissions from what may be called the middle class, *i. e.*, persons who are of average or higher intelligence and who have been in sufficiently

TABLE 1.

CLASSIFICATION ACCORDING TO TYPE OF DEMENTIA PRÆCOX.

	Men.		Women.		Total.	
Type.	No.	Per cent of of men.	No.	Per cent of women.	No.	Per cent of total.
Catatonic	71	36	114	38	185	37
Paranoid	77	38	114	38	191	38
Hebephrenic	14	7	44	15	58	12
Simple	18	9	12	4	30	6
Other †	20	10	16	5	36	7
Total	200	100	300	100	500	100

† Includes "Mixed," "Paraphrenic" and "Not specified."

comfortable circumstances to appreciate the hospital facilities. Such criteria prevail rather than the financial situation at the time of admission, as patients who may be expected to benefit by treatment may be accepted without charge and about half of the patients do not pay the cost of their care. This latter statement is made to make clear the fact that the patients about whom we are reporting were not from the wealthy classes only.

The age distribution of the patients at the time of admission is shown in Table 3. Five of the patients were under 15 years of age, the youngest 13; and 48 were between 15 and 20 years of age. The number of patients between the ages of 20 and 30 was 231; between 30 and 40 the number was 140; there were 60 between 40 and 50, and eight each between 50 and 55 and over 55.

Table 2 gives data regarding education. Eight per cent had not gone beyond grade school. Forty-six per cent of the patients had

TABLE 2.

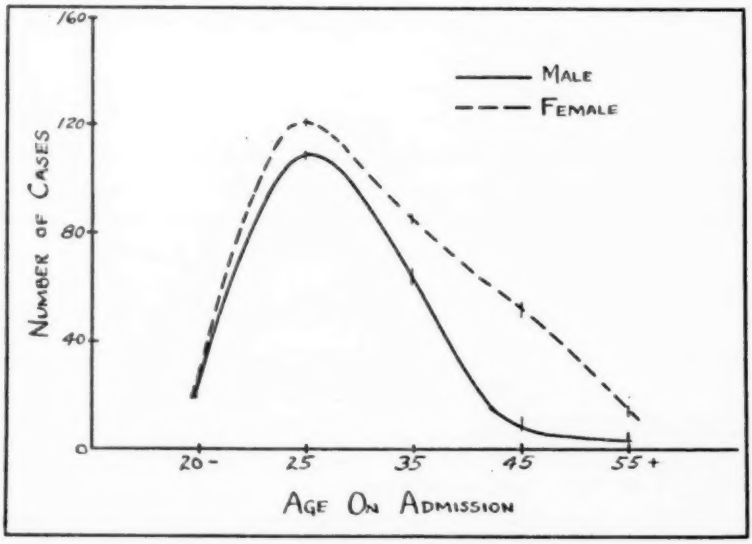
EDUCATIONAL STATUS OF PATIENTS.

Educational status.	Men. No.	Men. Per cent of men.	Women. No.	Women. Per cent of women.	Total. No.	Total. Per cent of total.
Grade School	15	8	25	8	40	8
High						
First Year	8	4	14	5	22	4
Second	17	8	29	10	46	9
Third	14	7	20	7	34	7
Fourth	29	15	100	33	129	26
College						
First Year	22	11	19	6	41	8
Second	14	7	25	8	39	8
Third	14	7	15	5	29	6
Fourth	67	33	53	18	120	24
Total	200	100	300	100	500	100

No case with less than grade school education.

TABLE 3.

DISTRIBUTION OF PATIENTS ACCORDING TO AGE ON ADMISSION.



had some high school education, and 26 per cent had at least completed high school. Forty-six per cent of the patients had entered college, and 24 per cent had had not less than four years of collegiate education.

Table 1 shows the numbers and percentages of patients classified according to the various groups of dementia præcox. Thirty-seven per cent of the patients were placed in the catatonic group and 38 per cent in the paranoid group. These two groups therefore made up 75 per cent of the total. As the table shows, 12 per cent were placed in the hebephrenic group, and 6 per cent in the group of simple deterioration. Other types of dementia præcox reaction, including mixed forms, paraphrenias and unspecified forms, constituted 7 per cent of the total.

The histories of the patients showed in 214 a duration of symptoms of dementia præcox of less than six months previously to admission; in 70 patients a duration of over six months but less than one year; in 122 patients a duration of from one to three years; and in 94 patients a duration of over three years.

The duration of residence in this hospital varied from three days to 12 years with an average of one year for the total number of 500. One hundred and eighty-two patients, or 36 per cent, were in the hospital less than 6 months; 147, or 30 per cent, were under treatment from 6 to 12 months; 76, or 15 per cent, were treated for periods lasting from over 12 months to 18 months; 42, or 8 per cent, for periods of over 18 months to 24 months; 22, or 4 per cent, for from two to three years; and 31, or 6 per cent, for over three years. Thus two-thirds of the patients were in the hospital not longer than one year. The duration of residence in this hospital is determined by various factors other than improvement in the patient. Relatives may remove patients to care for them in their own homes or in other institutions. On the other hand, the hospital not infrequently asks for the removal of a patient when it is felt that the patient will receive no further benefit in this hospital.

Of the 500 patients in the original group, five died in the hospital, and nine remain. The remainder, or 486, had been discharged before this study was undertaken.

We may now proceed to a consideration of the conditions of the patients shown at the time of discharge. In reporting these

we use the terms "unimproved," "improved," "much improved," and "recovered." We wish first to define these terms as we use them.

The term, "unimproved," indicates that there was no demonstrable improvement from the time the patient entered the hospital to the time he left.

The term "improved" is used to indicate a condition where there was a decrease in all psychotic symptoms, including delusions and hallucinations and disordered behavior, with an improved adjustment in the hospital as shown by changes to halls for more comfortable patients. The term is not applied to those who were more easily cared for but who were thus probably showing deterioration or increased apathy.

The term "much improved" is applied to those patients who appeared to be symptom-free except for emotional blunting and stilted attitudes. They showed a realization of a mental illness but did not have true insight. Probably most of the patients whom we considered much improved would be looked upon by others than psychiatrists as practically recovered and were in conditions which some writers refer to as "social remissions."

The term "recovered" is applied only to those patients who were symptom-free, had insight, apparently were as well as they had been before their illness, and were able to occupy themselves in their previous work.

The study of the 500 admissions shows that at the end of their hospital residence,* 318, or 64 per cent, were unimproved; 80, or 16 per cent, were improved; 69, or 14 per cent, were much improved; and 33, or 7 per cent, were recovered. Thus 37 per cent were benefited by treatment.

Results According to Type.

Considering the conditions of the patients at the end of the hospital residence according to the type of dementia præcox we find, as shown in Table 4, that of the catatonic patients, 58 per cent were unimproved, 13 per cent were improved, 19 per cent

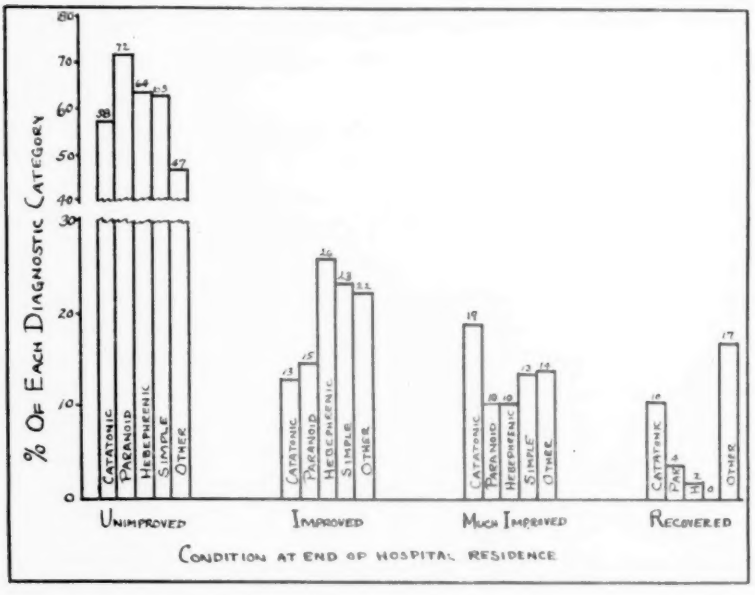
* In order to avoid confusion the present condition of the nine patients remaining in the hospital is included in these figures.

were much improved, and 10 per cent recovered; thus 42 per cent were benefited by treatment.

Of the paranoid types, 72 per cent were unimproved, 15 per cent were improved, 10 per cent were much improved, and 4 per cent recovered; thus 29 per cent were benefited by treatment.

TABLE 4.

CONDITION AT END OF HOSPITAL RESIDENCE DISTRIBUTED BY PER CENT OF EACH DIAGNOSTIC CATEGORY.



Of the hebephrenic patients, 64 per cent were unimproved, 26 per cent were improved, 10 per cent were much improved, and 2 per cent recovered; thus 38 per cent were benefited by treatment.

Of those showing simple deterioration, 63 per cent were unimproved, 23 per cent were improved, 13 per cent much improved, and none recovered; thus 36 per cent were benefited by treatment.

Of the other types 47 per cent were unimproved, 22 per cent were improved, 14 per cent were much improved, and 17 per cent recovered. Thus 53 per cent were benefited by treatment.

Results According to Age at Onset.

Grouping the patients according to age at onset of symptoms, it was found that of the group between the ages of 15 and 24 at onset, 57 per cent were unimproved, 17 per cent were improved, 19 per cent much improved, and 7 per cent recovered; thus 43 per cent were benefited by treatment.

Of the patients aged 25 to 34 at onset, 70 per cent were unimproved, 14 per cent were improved, 9 per cent much improved, and 7 per cent recovered; thus 30 per cent were benefited by treatment.

Of the patients aged 35 to 44 at onset, 65 per cent were unimproved, 15 per cent were improved, 15 per cent were much improved, and 6 per cent recovered; thus 36 per cent were benefited by treatment.

Results According to Duration of Hospital Residence.

By grouping the patients according to duration of hospital residence it was found that of the 182 patients who had a residence of six months or less, 68 per cent were unimproved, 18 per cent were improved, 11 per cent much improved, and 3 per cent recovered; thus 32 per cent were benefited by treatment.

Of the 147 patients who had a hospital residence of from over six months to 12 months, 58 per cent were unimproved, 14 per cent were improved, 19 per cent were much improved, and 9 per cent recovered; thus 42 per cent were benefited by treatment.

Of the 76 patients who had a hospital residence from over 12 months to 18 months, 70 per cent were unimproved, 12 per cent were improved, 10 per cent were much improved, and 8 per cent recovered; thus 30 per cent were benefited by treatment.

Results According to Duration Before Admission.

Considering the conditions of the patients at the end of their hospital residence with reference to the duration of illness before admission (Table 7), the results show that of the 214 patients with a previous duration of illness of six months or less, 52 per cent were unimproved, 18 per cent were improved, 21 per cent were much improved, and 9 per cent recovered; thus 48 per cent were benefited by treatment.

Of the 70 patients with a previous duration of illness of 6 to 12 months, 68 per cent were unimproved, 13 per cent were improved, 13 per cent were much improved, and 6 per cent recovered; thus 32 per cent were benefited by treatment.

Of the 122 patients with a previous duration of illness of from one to three years, 74 per cent were unimproved, 15 per cent were improved, 7 per cent were much improved, and 4 per cent recovered; thus 26 per cent were benefited by treatment.

Of the 94 patients with a previous duration of illness of over three years, 72 per cent were unimproved; 14 per cent were improved, 9 per cent were much improved, and 5 per cent recovered; thus 28 per cent were benefited by treatment.

Follow-Up Study.

As a part of this study it was thought desirable not only to consider the conditions of the 486 patients at the time of their hospital discharge but to learn as far as possible what the subsequent course of these patients had been, and their conditions as of about May 1 of this year.

Each record was carefully investigated to compile information that had been obtained since the patient had left the hospital. In all instances where we had information that a patient had been sent to another hospital, an abstract of the patient's course was requested from that hospital. Letters of inquiry were sent regarding all other patients to the relatives of record.

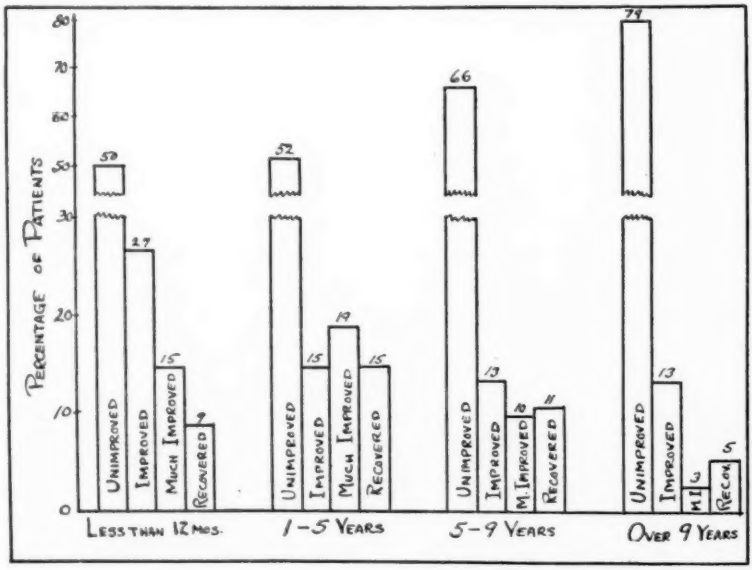
As a result of our inquiries we have some information regarding all but 48 of the 486 patients who had left this hospital. For 68 patients the information covers a period of less than 12 months after leaving the hospital; for 110 patients the information covers periods of from one to three years; for 80 patients periods of three to five years; for 79 patients, periods of from five to seven years; for 63 patients of from seven to nine years; for 28 patients periods of from 9 to 11 years; and for 10 patients the information covers periods of over 11 years.

It was found that 188 patients, or 43 per cent of the known group, are in other psychiatric hospitals. Thirty-one patients died in other psychiatric hospitals, seven by suicide. Fourteen patients died at home, five by suicide.

The conditions of the patients when last heard from, grouped according to the periods of time elapsed since leaving the hospital are shown on Table 5. The totals from the table show that 256, or 59 per cent of the patients, were unimproved when last heard from; 70, or 16 per cent, were improved; 61, or 14 per cent, were much improved; and 51, or 12 per cent, were recovered.

TABLE 5.

CONDITION AT END OF FOLLOWUP PERIODS EXPRESSED AS A PERCENTAGE OF EACH PERIOD.



It is interesting to note that the percentage of unimproved patients whose conditions were known after leaving the hospital decreased to 59 per cent from the percentage of 63 at the time of leaving the hospital. The percentage of the improved and much improved patients remained the same, but the percentage of the recovered patients increased from 7 to 12 per cent.

Table 6 shows the conditions as last known by diagnoses distributed as a percentage of each diagnostic category. It shows that of the catatonic patients, 50 per cent were unimproved, 13 per cent were improved, 18 per cent were much improved, and 20 per cent recovered.

TABLE 6.

OUTCOME BY DIAGNOSIS DISTRIBUTED AS A PERCENTAGE OF EACH DIAGNOSTIC CATEGORY.

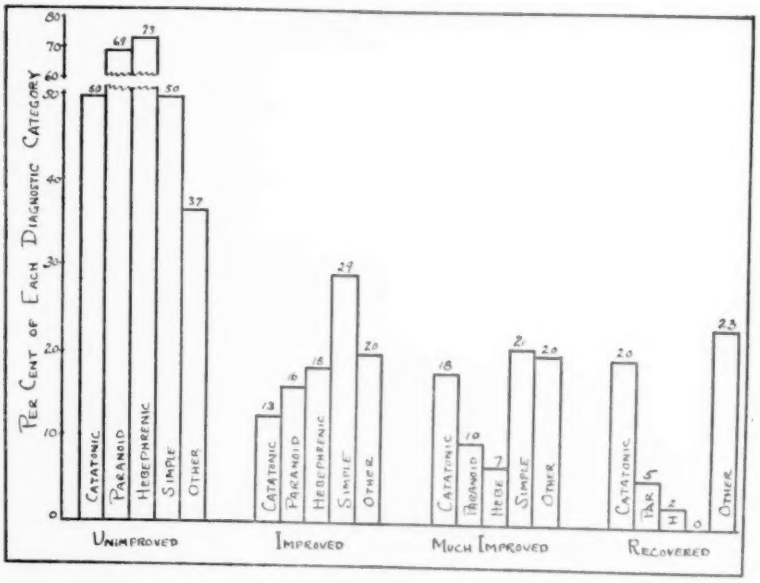
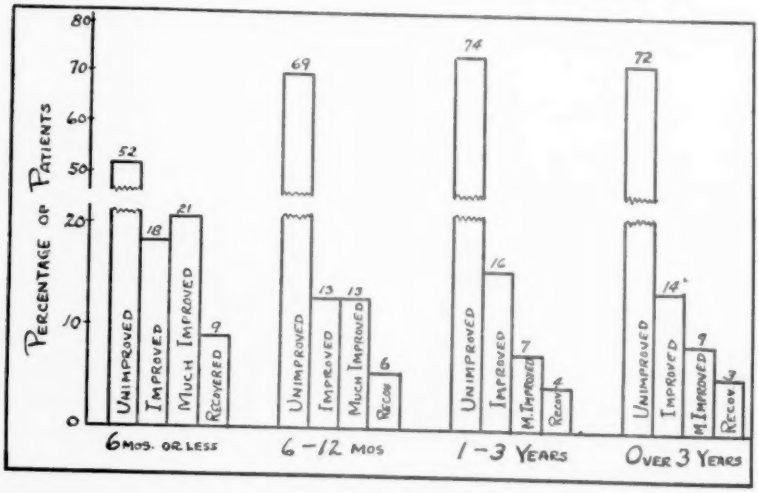


TABLE 7.

OUTCOME EXPRESSED AS A PERCENTAGE OF THE PATIENTS GROUPED ACCORDING TO DURATION OF ILLNESS BEFORE ADMISSION.



Of the paranoid patients, 69 per cent were unimproved, 16 per cent were improved, 10 per cent much improved, and 5 per cent recovered.

Of the hebephrenic patients, 73 per cent were unimproved, 18 per cent improved, 7 per cent much improved, and 2 per cent recovered.

Of the simple deterioration cases 50 per cent were unimproved, 29 per cent improved, 21 per cent much improved, and none recovered.

Of the other types 37 per cent were unimproved, 20 per cent improved, 20 per cent much improved, and 23 per cent recovered.

A comparison of the figures regarding the conditions at the time of leaving the hospital with conditions of the patients when last heard from according to the diagnostic categories, shows that there was a decrease in the number of unimproved catatonic patients, almost complete similarity of the percentages of improved and much improved catatonic patients, but an increase in recoveries of these patients from 10 per cent at the time of leaving the hospital to 20 per cent at the end of the follow-up period.

The percentage of unimproved paranoid patients decreased slightly. The percentage of improved and much improved patients of this type remained the same, but there was a slight increase in the percentage of recovered patients.

For the hebephrenic patients there was an increase of 9 per cent in the unimproved group, decreases in the improved and much improved groups, with no change in the percentage of those who had recovered.

Regarding the other forms of dementia præcox there was a decrease of 10 per cent in the unimproved group; the percentage of improved showed little change, but there was a 6 per cent increase in the much improved group, and the percentage of recovered patients in this group increased from 17 to 23 per cent.

These figures suggest that the catatonic and "other forms" of dementia præcox may be expected to show substantial improvement over a course of years with trends toward recovery and that there is some trend for improvement in the paranoid cases, but that the reverse is true for the hebephrenic patients, *i. e.*, instead of improvement, progress of the disorder appears to be indicated and there is no trend toward recovery.

Table 8 tabulates the conditions reported to us by various hospitals of 42 patients who had, since leaving this hospital, received treatment with insulin, metrazol, or both. As the table shows, 30 were unimproved, eight improved, three much improved, and one recovered.

TABLE 8.

PATIENTS RECEIVING SPECIAL THERAPY AFTER LEAVING N. Y. H.

Method of treatment.	Result of treatment. Unimproved.			Improved.			Much improved.			Recovered.			Total.
	M	W	T	M	W	T	M	W	T	M	W	T	
Insulin	6	13	19	3	3	6	1	1	2	1	..	1	28
Metrazol	1	2	3	1	1	2	..	..	..	..	..	..	5
Insulin & Metrazol.	5	3	8	..	..	..	1	..	1	..	..	..	9
Total	12	18	30	4	4	8	2	1	3	1	..	1	42

CONCLUSIONS.

From this study the following conclusions seem indicated.

Of a large group of dementia præcox patients of average or higher intelligence admitted to a hospital equipped and manned to give intensive, individual care and treatment by well established methods, and remaining for treatment for approximately one year, it may be expected that at the end of their hospital residence 37 per cent of the total number will have benefited by treatment and 7 per cent will have recovered. If the patients are of the catatonic type of dementia præcox the prospect will be that 42 per cent of them will be benefited, with 10 per cent recovered. The prospect of improvement in the paranoid, hebephrenic, and simple types will be less, but for patients suffering from other forms than those already mentioned it may be expected that more than half will be benefited by treatment and 17 per cent of them will be completely recovered.

If the patients have shown symptoms for not more than six months before admission, it may be expected that half of them will be benefited and 10 per cent of these will be recovered. If the illness has existed longer there will be less expectation for improvement and recovery but the latter may occur even if the symptoms have existed for several years before admission.

If the dementia præcox patient remains under treatment for six months to a year he has a better chance of improvement than if he left before six months' residence. If he has not improved by the end of one year, there is less chance that he will greatly improve or recover although there is a possibility that he may recover even after two years' treatment in the hospital.

Furthermore, based on this study, we may expect that from two to 12 years after admission, of these 500 patients, 10 per cent will have died, 43 per cent will be having continued care in mental hospitals, and the remainder will be living outside of such hospitals. Approximately 60 per cent of the original group will be unimproved, 16 per cent will be improved, 14 per cent will be much improved, and 12 per cent will be recovered completely.

If a patient has had a catatonic form of dementia præcox, he will have had a better chance to continue to improve after leaving the hospital than a paranoid, hebephrenic or simple type, and it may be expected that at the end of a number of years the number of catatonic dementia præcox patients who are recovered will be double the number at the time of leaving the hospital. On the other hand, the prospects are that the hebephrenic patients as a whole will be worse than when they left the original hospital.

We present these facts to show what may be expected for the intensive, individual treatment of dementia præcox patients in a special psychiatric hospital, and offer them as a basis of comparison with the results that may be obtained by "specific" forms of treatment, such as the use of insulin and metrazol.

THE PEOPLE *VERSUS* ROBERT IRWIN, CHARGED WITH THE MURDER OF THREE PERSONS.

REPORT OF COMMISSIONERS IN LUNACY.

IN THE MATTER OF THE EXAMINATION INTO THE MENTAL CONDITION OF THE ABOVE NAMED ROBERT IRWIN, AN ALLEGED LUNATIC.

The undersigned Commissioners were duly appointed by an order of the Court of General Sessions of the County of New York to examine into the mental condition of the above named defendant in the three cases referred to and to report to the court.

Three legally distinct crimes are charged in three separate indictments. Indictment No. 213646 charges the murder of one Veronica Gedeon; indictment No. 213647 charges the murder of one Frank Byrnes; indictment No. 213648 charges the murder of one Mary Gedeon. But as all of the crimes were committed on the same day and within a few hours of each other, and as the evidence considered applies, with no material variation, to each of the alleged crimes, it is apparent that but one report is required to be made.

In this connection, it is stated that prior to the entrance upon the performance of their duties as commissioners, the undersigned severally took the oath prescribed by law and thereafter met and held sessions for the taking of evidence, attended by a representative of the district attorney's office for the People, and by the defendant's attorney for the defendant.

Twenty-two sessions were held at which testimony was taken, and ten executive sessions were held at which said testimony and the formulation of this report were considered.

Twenty-eight witnesses were orally examined, the transcript of their testimony consisting of 756 typewritten pages, exclusive of exhibits. A large amount of documentary data was also examined by the Commission.

The issues referred to this Commission involve the mental condition of the defendant Robert Irwin at the time of the commission of each of the alleged crimes referred to in said indictments; and also, whether he is now capable of understanding the proceedings and making his defense on the trial of the indictments.

The said issues are separate and distinct both as to mental condition and chronology. That is, one issue relates to mental condition at the time of the alleged crimes; the other issue relates to mental condition as of the time of this report, referring to the capacity of the defendant at the present time to understand the proceedings, and make his defense. The latter issue does not relate to criminal responsibility. The former does, exclusively.

It is a legal presumption, subject to rebuttal, that all men are sane and intend the natural and probable consequences of their acts. Upon the issue of insanity or mental incompetency, in a criminal prosecution, the burden of proof is, therefore, in the first instance, upon the person claiming to be incompetent, or in whose behalf lunacy or mental incompetency is claimed. In the present proceeding, however, the Commission has not been influenced by such presumption. It has made inquiry into the issues referred to it by the court in such manner as circumstances have allowed and herein reports the conclusions which, to the minds of the members of the Commission, are sustained by a preponderance of evidence.

In New York State insanity, to constitute a defense to crime, must be legal insanity as distinguished from what might be loosely or colloquially termed medical insanity. That is to say, it is required by law that to establish a defense in a prosecution for what would otherwise be a criminal act, the alleged lunatic or insane person must show that he was laboring under such a defect of reason that he did not know the nature and quality of the act, or did not know that the act was wrong (see section 1120, New York Penal Law).

If, on the other hand, a person indicted for an alleged criminal act was legally sane at the time of the commission of the act, he may, notwithstanding, not be tried if since the commission of the act he has become "incapable of understanding the proceeding or of making his defense."

To state the provisions of law more exactly, the language of section 1120 of the Penal Law is that:

"An act done by a person who is an idiot, imbecile, lunatic or insane is not a crime. A person cannot be tried, sentenced to any punishment or punished for a crime while he is in a state of idiocy, imbecility, lunacy, or insanity so as to be incapable of understanding the proceeding or making his defense. A person is not excused from criminal liability as an idiot, imbecile, lunatic, or insane person, except upon proof that, at the time of committing the alleged criminal act, he was laboring under such a defect of reason as:

1. Not to know the nature and quality of the act he was doing; or

2. Not to know that the act was wrong."

Lest the foregoing language should be construed too leniently toward offenders, there is a complementary provision (section 34, Penal Law), that: "A morbid propensity to commit prohibited acts, existing in the mind of a person who is not shown to have been incapable of knowing the

wrongfulness of such acts, forms no defense to a prosecution therefor."

Thus, it has been held that evidence that a defendant charged with first degree murder was a "psychopathic inferior," or a man of low and unstable mentality, did not require a finding from the jury that he was mentally irresponsible, within the meaning of section 34 of the Penal Law (People *vs.* Moran, 249 N. Y., 179).

So also it has been held in other cases that a defendant, even of inferior intellect and morally depraved, may be held responsible for the commission of a crime, where the evidence shows that he knew the nature and quality of his act and that it was wrong.

The report of the Commission will, following the words of the statute (New York Penal Law, section 1120), consider: (I) whether Irwin, at the time of the homicides for which he stands indicted, was laboring under such a defect of reason as not to know the nature and quality of his acts; or (II) whether Irwin, at the time of the homicides for which he stands indicted, was laboring under such a defect of reason as not to know that his acts were wrong; and (III) whether he is now in such a state of idiocy, imbecility, lunacy, or insanity as to be incapable of understanding the proceedings or making hs defense.

I.

Concerning the meaning of the words "nature and quality (of the act)," and the word, "wrongful," as employed in section 1120 of the Penal Law, Judge Cardozo stated, by way of illustration in the case of People *vs.* Schmidt (216 N. Y., 324), that a young mother who should intentionally kill her infant child to whom she was "devotedly attached," would doubtless know the nature and quality of the act and know that the law condemned the act. But, said Judge Cardozo, if she was inspired by an insane delusion that God had appeared to her and ordained the sacrifice, it would seem a "mockery to say that, within the meaning of the statute, she knew that the act was 'wrong.'"

This language was used by Judge Cardozo twenty years before the decision of the Court of Appeals in the case of People *vs.* Sherwood (271 N. Y., 427), which was a prosecution for murder of a young mother who had drowned her infant son, two years old, in a pool of water eight inches deep, by holding his head in the water until he was suffocated, because, in consequence of a series of misfortunes, the woman felt that in death alone could there be safety and freedom from pain, suffering and misery, for her child. Judge Crouch, writing for the Court of Appeals, said: "That the defendant knew what she was doing—the nature and quality of the act—could be a matter of small doubt to the lay mind."

In People *vs.* Schmidt (216 N. Y., 234) Judge Cardozo, referring to People *vs.* Purcell (214 N. Y., 693), said:

"There the trial judge (Nott, J.), in a careful and able charge, told the jury that knowledge of the nature and quality of the act has reference to its physical nature and quality, and that knowledge that it is wrong refers to its moral side; that to know that the act is wrong, the defendant must know that it is 'contrary to law and contrary to the accepted standards of morality.'"

With the foregoing provisions of the Penal Law in mind, as authoritatively construed by the courts, we approach the questions whether, when Irwin killed successively Mary Gedeon, Veronica Gedeon and Frank Byrnes, he understood the physical nature and quality of his acts and whether he knew that the acts were wrong—as contrary to law or contrary to accepted standards of morality.

As bearing upon these issues, the Commission was able to adduce the testimony of a number of witnesses concerning the details of Irwin's life when a student in St. Lawrence University, at Canton, N. Y., covering the period of about six months prior to the crime. His career there was normal and uneventful in all respects, until a few days before the homicides, when he assaulted a student who had provoked him by some trivial act or affront. As a result of this misconduct, Irwin was dismissed from college and came to New York. The afternoon preceding the tragedy was spent by Irwin in the company of a Miss Leonora Sheldon, of Woodstock, Vt., an intelligent and entirely irreproachable young woman, who had attended Vassar College. Miss Sheldon was the fiancée of a student at Canton who had become a friend of Irwin's, Irwin having become acquainted with Miss Sheldon at Canton in this way. In company with her brother, Miss Sheldon and Irwin visited the Museum of Natural History Saturday afternoon, March 27, 1937, in an effort to secure employment for Irwin there, Miss Sheldon's brother being acquainted with some of the members of the staff of the Museum. After this visit Miss Sheldon and Irwin, without the brother, went to the Metropolitan Museum of Art. Miss Sheldon told the Commission that she had rarely spent a more interesting or instructive afternoon than at the Metropolitan Museum with Irwin, because of the latter's knowledge of art, of pictures and of sculpture, and his entertaining discussion of these topics. Miss Sheldon saw Irwin last about 5.30 o'clock in the afternoon of Saturday, March 27, 1937. It was during this night that the three persons were killed by Irwin.

Three months later, when Irwin surrendered himself in Chicago and was brought to New York his narration of the details of the homicides, conformed in all material respects with the physical condition of the apartment of the Gedeons, the condition of the bodies as reported by the autopsies, and the circumstances surrounding the murders as discovered by the New York police officers the day following the homicides.

In his statement at Police Headquarters in New York, when Irwin stated that he had first killed Mary Gedeon the mother, he was asked:

"Q. How?

A. Strangulation."

The following questions were then asked by District Attorney Dodge and answered by Irwin:

"Q. What time did you arrive at the apartment that night? A. Something like 9 o'clock—I don't remember.

Q. How did you get into the apartment? A. She [Mrs. Gedeon] let me in.

Q. Was she alone at the time? A. Yes.

Q. You talked with her, I presume? A. Yes.

Q. Tell us briefly what you did before the first crime was committed? A. I drew her picture and asked about Ethel and she said she was not there. I said, she will be here and I am going to stay until she is here. Then she ordered me out and I hit her and strangled her.

Detective: What did you hit her with? A. My fist.

Detective: Where? A. Some place in the face.

Q. You say you strangled her? How? A. With my hands.

Q. What did you do after you strangled her? A. I threw her under the bed.

Q. What happened then? A. I waited for Ronnie.

Q. Before you waited for Ronnie, what happened when she was put under the bed? A. She was speaking about Frank Byrnes.

* * * *

Q. At the time you strangled Mary Gedeon, was Byrnes, the boarder, in the house? A. He was in his room, the light was off.

Q. Did you see him? A. I saw him previous to that.

Q. What time? A. I suppose it was 10 o'clock or something like that.

Q. Was that before you strangled Mary? A. Yes.

* * * *

Q. Did she introduce you to him? A. Yes.

Q. What did she say when she introduced you? A. She said he is an old friend of ours; it was brief.

Q. Then he went in his room and shut the door? A. Yes.

Q. Then you waited and Ronnie came in? A. Yes.

Q. What did you do when Ronnie came in? A. She went to the bathroom, I waited; when she came in, I strangled her.

Q. Was she dressed or undressed? A. She was in her chemise or something like that.

Q. What did you do with the chemise? A. Tore it up.

Q. What did you do after you strangled her? A. Left her lying on the bed. I didn't attack either of the women.

Q. What did you do after you strangled Ronnie? A. I went in and killed Byrnes.

Q. How? A. With the ice pick.

Q. In the bed? A. Yes.

Q. Did he make any outcry? A. No.

Q. Was he asleep? A. Yes.

Q. How did you use the ice pick on him? A. I stabbed him in the head.

Q. How many times? A. I don't remember.

Q. What did you do with the ice pick? A. I kept it and finally discarded it in Philadelphia.

Q. Did you take anything out of the apartment after the three people were killed? A. Yes; I took that alarm clock.

Q. Is this the alarm clock here? A. Yes.

Q. That was where, when you first saw it? A. It was on the bed in the room where Ronnie was slain.

Q. That glove, is that yours? A. Yes.

Q. You left that in the apartment? A. Yes, and I knew I left it there.

Q. What happened to the mate of it? A. I threw it away on Second Avenue."

Certain of Irwin's evasions, when first interrogated by District Attorney Dodge at Police Headquarters the night of Irwin's arrival by airplane from Chicago, deserve consideration here. When Irwin was first questioned, it should be noted, he stated that he did not wish to give any information relating to the crimes, and it was only after Dr. Frederic Wertham, formerly of Bellevue Hospital, had been sent for at Irwin's request that, following a conference with Dr. Wertham, Irwin consented to go into the details of the tragedy.

The evidence showed that after Irwin had surrendered in Chicago he made a detailed statement to representatives of the *Herald-Examiner*. For this it was agreed that Irwin should be paid $5000. On the airplane trip from Chicago, accompanied by Lieutenant Owens and Detective Crimmins, of the New York City police force, Irwin had, in effect, repeated the statement made in Chicago. After arrival at Police Headquarters in New York City, District Attorney Dodge, desiring to interrogate Irwin, stating that it was his duty as a public officer to warn Irwin that anything said might be used against him, then asked Irwin: "Do you wish to make a statement?" Irwin answered: "Mr. District Attorney, I have made ——. I wish to refer you to Lieutenant Owens. Whatever is in store for me, I will take it, but I think I have a legal right not to speak any more than I have spoken until I have a lawyer. I don't mean to make difficulties; I hope I don't."

District Attorney Dodge:

"Q. We don't want to press you. We understand you made a statement to Lieutenant Owens, is that correct? A. I refer you to Lieutenant Owens.

"Q. Do you want him to speak for you? A. I want my lawyer to speak for me."

Lieutenant Owens then suggested that because the contract with the Chicago *Herald-Examiner*, under which Irwin was to be paid $5000, provided that he should not, within a limited period, disclose the facts to anyone else, perhaps Irwin felt a restraint which would prevent his "talking to the District Attorney."

In response to this suggestion, Irwin said: "No sir, I believe I have every right to talk to you [the District Attorney] or to Commissioner Valentine, or I suppose to any of you. As far as that contract is concerned, I will not break the contract, but my own legal rights I am thinking of now."

District Attorney Dodge:

"Q. We are not concerned with your contract for the papers, we will not do anything to oppose that, that is not our function. But the newspapers, the Hearst papers, the *Daily Mirror* and other papers, have published what is supposed to be a confession made by you to the Hearst Newspaper outfit and others. What we want to know is the story which you told to the newspaper people, is that correct, a true statement? A. I have said everything that I care to say.

Q. You made a contract with the Hearst people and you are to get $5000 for your story, and that story included a confession, I take it—at least, that is what was published in Sunday's *Daily Mirror*, under date of June 27, 1937, that is in full, it gives quite a full account of your story, what we are interested to find out, is that true? Of course, I assume that you would not tell a lie to the newspapers for the sake of getting $5000? A. I don't mean to make any difficulties, sir, I wish you would please supply me with a lawyer, I have nothing to hide. . . . .

Q. You expect to get $5000 from the Hearst Newspapers for this statement, don't you? A. I don't mean to create difficulty.

Q. All we want is the truth. A. You will get every bit of the truth.

Q. We read something in the newspapers and we would like to know what you are purported to have said is the truth. . . . . A. I have nothing more to say.

Q. Why haven't you anything to say? A. When the time comes I will have plenty to say.

Q. Why not now? A. Because I have a legal right to have a lawyer first.

Q. That is correct. Why do you need a lawyer? A. Any man going into court, especially on a charge like this.

Q. What charge have you in mind? A. I am charged with the Gedeon murder.

Q. You really think so and you think you need a lawyer under the charge of murder. If the charge of murder is made against you, do you think you will need a lawyer? A. Yes.

Q. Why, under those circumstances? A. Because I am going into court and I don't understand the legal end of it.

* * * *

Irwin: When I get on the stand, you will find that I have nothing to hide, and I will have the truth, the whole truth.

Q. What stand do you mean? A. Stand in court.

Q. Do you expect to go on the stand in court? A. If a man is on trial he generally gets on a stand.

Q. What does he do? A. He answers questions. I think I will be answering your questions.

Q. Who is present when he is answering those questions? A. The jury.

Q. And you have a lawyer for that? A. I hope to.

Q. Who else asks you questions if you are brought to trial? A. You have a lot of witnesses my own lawyer if I get one, and yourself.

Q. Do you think I will be asking you any questions? A. I don't know.

Q. I mean somebody from the prosecutor's office? A. Yes.

Q. Why? A. Why not.

Q. I am asking you why? A. Because that is the general procedure.

Q. In what way? A. General procedure, when a man is in court charged with murder, that the prosecuting attorney or somebody from the District Attorney's office will ask him all about it, just as is done in every murder trial, as in the Hauptmann case."

That Irwin contemplated the possibility of a trial which would terminate by committing him to an institution for the insane, is also clear from the evidence. In Police Headquarters Irwin was asked further about the $5000 which he had obtained or expected to be paid him by the Hearst newspapers. He said that he would want only a small portion of this for himself, explaining:

"If I find myself in an institution for life or something like that, I would like to get a small amount of that money so I can hire some one of my fellow patients or prisoners, whatever you want to call them. In such an institution for $1 a week you can get people to do many things for you. That is all I want out of it. The rest of it I want to go to my brothers. All those details can be taken care of by banks. You know more about business than I do. . . . .

Q. You would want the money to draw interest, I suppose? A. That has not occurred to me, but if there is any interest coming, yes."

The facts of Irwin's voluntary surrender in Chicago and the shrewd bargain struck with the Chicago *Herald-Examiner* which Irwin initiated and accomplished by himself indicates a mentality of keenness and comprehension. He even explained in his statement at Police Headquarters in New York City that he had given himself up to the Hearst papers "because I figured that of all publications they would give me more than any others." True, Irwin stated that he wanted the money which the newspaper agreed to pay him ($5000) for his two brothers, both of whom he described as being inmates of western prisons. Whether or not the real reason for his surrender in Chicago, after his identity had been discovered in Cleveland, was that he wanted to raise money for his brothers, whom he had not seen for many years, is unimportant here.

To summarize under this head it may he said that it is the considered opinion of the members of the Commission that Irwin knew the nature and quality of the acts which caused the death of the three individuals for whose murders he is under indictment, as these words have been authoritatively construed by the courts.

II.

We have seen that a person may not be excused from criminal responsibility unless he is under such a defect of reason as not to know the nature and quality of the act, *or* (not *and*, People *vs.* Sherwood, 271 N. Y., 427, 432) that the act was wrong. Under the latter head, furthermore, the meaning of the word "wrong" must be considered—whether merely as violative of law or as also involving moral dereliction.

The facts and circumstances of Irwin's carefully planned and cleverly consummated escape show that Irwin knew that for the acts which he had committed the law provided a punishment. He was asked:

"Q. Did you take anything out of the apartment besides this clock? A. I took some food out, because my face was scratched and I knew I would have to remain in hiding a little bit.

Q. Did you take these two bags? A. These two bags were not there, they were in the room.

Q. Did you take anything else out of the apartment besides the clock and some food? A. Oh, yes, I took some pictures. Ethel had some pictures she had given me and I returned them to her, and in the meantime they had given me some of them back. Ronnie had given them to me or somebody maybe Ethel or her mother, but there were more, and I wanted to get those pictures of Ethel and I searched the bureau drawers for those pictures and I saw Ronnie's diary, but I didn't bother with it. I saw no pictures of Ethel and two pictures of Ronnie, which I took.

Q. Then you put them with your things from your room into the two bags which we have here? A. Yes.

Q. Then you took the two bags where? A. Put them in the Grand Central Station.

Q. Checked them there? A. Yes.

Q. What did you do with the check? A. Threw it away in Cleveland, Friday night.

Q. Friday, June 25, 1937? A. Yes.

Q. These bags that you have seen here, these were your bags, is that right? A. Yes.

Q. In the bag, among other things, was the clock that you identified, which you took from Ronnie's bedroom? A. Yes."

Irwin was further interrogated:

"Q. (By Commissioner Valentine.) When you left the suitcases in the Grand Central depot, checked them, you intended to call for them at some future time? A. I intended to go to Philadelphia one day, Washington one day, to come to New York and return to Canton.

Q. And pick up the suitcases and go to Canton, N. Y.? A. Yes; I didn't want to pay for my room for a whole week in order to leave my suitcases there for two days. Then at the same time I realized that there was a possibility of a break.

Q. (By Commissioner Valentine.) You mean a break against you in that they would be discovered and identified as having been your property, placed there by you? A. Yes.

Q. For that reason you did not go back to claim them? A. I went to Philadelphia and there I saw the headlines.

Q. The reason you didn't come back, you believed if you done so you would be apprehended, that is true, isn't it? A. Yes."

Coming next to the consideration of whether Irwin knew that the killing of the Gedeons, mother and daughter, and Byrnes, the lodger, was morally wrong, as distinguished from a violation of law, it may be stated that by the weight of authority in New York, it is held that knowledge that an act is wrong, as that word is used in section 1120 of the Penal Law, requires more than mere knowledge that the act is contrary to law. But this language of the statute does not require that an alleged lunatic should understand the act to be wrong according to his own standards of morality, but only that it should be wrong according to generally accepted standards. Furthermore, "knowledge that the act is forbidden by law will in mose cases permit the inference of knowledge that according to the accepted standards of mankind, it is also condemned as an offense against good morals" (Cardozo, J., in People *vs.* Schmidt, 216 N. Y., 324, 340).

A Texas decision, in which state there is a statute similar to that of New York, announces the principle differently but with equal clarity. In this case it was said that "if a person has sufficient mental power fully to appreciate and know what he is doing, he must necessarily know that the killing of a human being is wrong" (Montgomery *vs.* State, 151 S. W., 813, 817).

Irwin's escape, after the commission of the murders followed by the concealment of his identity for three months, shows, at all events, as we have already observed, that he knew that the acts he had committed were a violation of law. Indeed, some of the circumstances connected with his escape show shrewdness, and even cleverness. For example, as we have seen, Irwin told the New York police when brought back to New York City from Chicago after his surrender there, that in the struggle with Mrs. Gedeon his face had been scratched. For this reason, when he left the Gedeon apartment he removed food from the Gedeon icebox, and took it with him so that he would not have to go into a shop to purchase food, because he thought the scratches on his face might betray him and lead to his discovery and apprehension.

It may be mentioned also that at one point in his statement at the Police Department, when interrogated by District Attorney Dodge, he stated that he had felt remorse for the killing of the Gedeons and Byrnes, explaining, however, that he thought the lives which he had taken were not lost. "They are borrowed," declared Irwin, "and I can repay them." He was then interrogated:

"Q. What do you mean by that? A. I don't believe anything is lost and that all life is only a part of the divine life."

Irwin further explained:

"In the first place, none of those persons are dead, they are gone from this plane, but they are not, as I say, lost. When they asked Marconi if he believed in immortality, he said it does not seem to me to be in keeping with the economy of nature. You can't destroy one atom of matter, how are you going to destroy the spirit?"

Assuming these answers to have been sincere, and not due to a design to feign irrationality or irresponsibility, it is not believed that the state of mind they reveal would constitute irresponsibility for crime under the New York Penal Law, but rather show poorly digested reading in philosophy and psychology.

"Whatever the views of alienists and jurists may be," said Judge Cardozo, in People *vs.* Schmidt (216 N. Y., 324, 329), "the test in this state is prescribed by statute and there can be no other." This language was used by Judge Cardozo in his comment upon a Massachusetts case (Comm. *vs.* Cooper, 219 Mass., 1, 5), which held that an offender was not responsible if he were "so mentally diseased that he felt impelled to act by a power which overcame his reason and to him was irresistible." But Judge Cardozo said: "That is not the test with us."

The fact that Irwin has been from time to time under treatment for mental disorders has not been overlooked by the Commission, nor the fact of his super-

ficial attempt at self-mutilation, that he might, as he explained, concentrate his genius on his art. Partial insanity or previous insanity or insane delusions in respect of matters unrelated to an alleged crime do not affect responsibility in New York State, if, in spite thereof, the person charged understands the nature and quality of the act or that the act was wrong.

No doubt it may be said that Irwin has the character defect and the emotional instability of the psychopathic personality. But no evidence has been presented to show the existence of a compelling delusion which caused the crimes. Nor has any evidence been produced to show any organic disease of the brain.

As was said by Rodenbeck, J., in People *vs.* Nyhan (Supreme Court, Special Term, Monroe County, 1918, 171 N. Y. Supp., 466):

"There is a distinction . . . . between 'insanity' as the term is understood in medical science and 'insanity' as the term is understood in legal science, so as to relieve from criminal responsibility. A person may be insane, as that term is ordinarily understood, and still be responsible for the commission of a crime.

It seems clear to the Commission from what has foregone that the evidence preponderates in support of the view that Irwin not only knew and understood the physical nature and quality of his acts when he took the lives of his victims, but knew that the acts were forbidden by law and had sufficient intelligence and understanding to know and did know that the murder of a human being was forbidden by accepted standards of human conduct and morality.

III.

The further and remaining issue is whether Irwin is now incapable of understanding the proceeding or of making his defense.

In considering the questions whether when Irwin committed the alleged murders, he knew the nature and quality of his acts and knew that the acts were wrong, the evidence given the most weight has pertained to Irwin's life and social intercourse and contacts prior to the date of the alleged crimes, though upon that issue the substantial accuracy of Irwin's recollection of the circumstances surrounding the crimes, as shown by his statements to the Chicago newspaper, on the airplane from Chicago to New York, and at Police Headquarters in New York City, has also been given consideration.

Additional evidence, some of which would be irrelevant upon the question of the mental condition of Irwin when the alleged crimes were committed, has been considered by the Commission in reaching its conclusion upon the issue whether Irwin is now capable of understanding the proceeding and of consulting intelligently with counsel concerning his defense.

As bearing especially upon this issue, the Commission had the benefit of the testimony of Warden Adams of the Tombs, who, though showing at all times due consideration for the welfare of Irwin as an inmate of that institution, cooperated intelligently and helpfully with the Commission, which held a number of sessions in what is known as the counsel room of the Tombs.

It is in evidence that Irwin, except for a tendency to become irritable on slight provocation, has been for the most part a model prisoner since his incarceration following his surrender in Chicago and his return to New York in the custody of officers of the New York City Police Department. There have been a few exceptional episodes, however—one, when he threw the contents of a cup of water over a prison physician and grew violent when removed to the isolation cell; another when in the Raymond Street Jail, Brooklyn, Irwin was sent for by his counsel and exhibited to a group of newspapermen. On this occasion Irwin became apparently excited and gesticulated with incoherent exclamations. When taken from the room, and when the press representatives had gone, Irwin became quite calm again and created no further disturbance on that occasion. There was another scene of disorder on the day the Commission first visited the Tombs Prison for the purpose of interrogating Irwin. For that purpose Irwin was brought down from his cell and left locked in the counsel room pending the arrival of the Commission. While alone in the counsel room Irwin sat quietly reading papers, he being able to observe through the iron bars of the door what was going on in the corridors. When the approach of the Commission to the room was observed by Irwin, and as one of the prison keepers was about to insert his key in the lock, Irwin pushed a heavy oak table against the door, which opened inward, and attempted by throwing his weight against the table to prevent the entrance into the counsel room of the Commission, the district attorney, Irwin's counsel, the stenographer, the warden and witnesses. It required considerable force to push the table back from the door to allow the ingress of the interested parties. As the door was pushed open and Irwin found further resistance futile, he picked up a chair as though to strike an approaching keeper. He was overpowered in the presence of the Commission, though with no greater force than necessary for the purpose. He then appeared to be in a state of considerable excitement, so that Warden Adams of the Tombs was instructed by the Commission to have Irwin taken back to his cell. Thereupon he became quiet and created no further disturbance, and his life in the Tombs since that time has been that of the average prisoner, though it is said that he has shown a disinclination to associate during exercise periods with the other inmates of the jail.

It is the opinion of the Commission that Irwin on the particular occasion referred to above, purposely and knowingly refused to talk to the Commission and created the scene described. It seems to the Commission at least probable that Irwin's scuffle in the counsel room was for the purpose of evading examination by the Commission. It may be, of course, that Irwin will create similar scenes on other occasions. While Irwin has been irascible and impulsive at times, there has always

been some understandable cause or provocation, though usually too slight to justify the burst of temper or use of force displayed on the occasion. In other words, the difficulty has been more a lack of self-control on Irwin's part, than one of irrational reaction to circumstances which might have caused slight irritation in a normal person.

The case of People *vs.* Carpenter (102 N. Y., 238) is pertinent here. The defendant had killed his wife by stabbing her on the street, in broad daylight, and in the presence of a number of persons. The defense introduced evidence of insanity and requested the court to charge the jury that the defendant was not responsible "if some controlling disease was in truth the acting power within him, which he could not resist, or if he had not sufficient use of his reason to control the passion which prompted the act."

The court refused the request to charge, and the Court of Appeals held that such refusal was not error. "The principle of this request," said Chief Judge Ruger, "is not only impliedly condemned by sections 21 and 23 of the Penal Code (now sections 1120 and 34, Penal Law), but has been held to be untenable by the express decision of this court" (citing Flanagan *vs.* People, 52 N. Y., 465).

The prison records show, it should be noted, that Irwin has been visited frequently by counsel, and it may be mentioned here that his counsel was present throughout the scene of disorder in the counsel room of the Tombs, but by no word nor act sought to calm Irwin or to persuade him to allow the Commission, in the performance of its duties, to question him and consider his answers as bearing upon his mental condition.

The fact that in reaching its conclusions the Commission has not been able to interrogate Irwin, should be noted in passing. The first effort made in the counsel room of the Tombs Prison, has already been described. On a later occasion, on or about the 27th day of October, 1937, when the Commission was taking testimony in the Tombs, the Commission went to Irwin's cell, a representative of the district attorney, Irwin's counsel, the stenographer and Warden Adams, accompanying. Irwin was visible in his cell through the bars of the door. The chairman of the Commission, standing at the barred door, stated in a voice so loud that Irwin could not fail to hear it, that the Commission had come to interrogate him and to take his testimony, that the Commission entertained no prejudice for or against Irwin, but was engaged in the performance of duties under an order of court. Irwin remained silent.

On a further occasion, on or about the 9th day of February, 1938, the Commission again went to Irwin's cell and announced to him that it desired to interrogate him in the performance of its duties. Again he remained mute.

On both of these occasions the Commission was accompanied by Irwin's counsel, but on neither did counsel request Irwin's cooperation with the Commission, despite evidence tending to show that Irwin has great confidence in his counsel. That Irwin is capable of understanding the proceeding and of making his defense is not doubted by the Commission.

In this connection it may be observed that Irwin frequently stated to his prison keepers that he was averse to appearing and would never appear before and answer the questions of a lunacy commission. Irwin explained that what he wanted was a trial by a jury; that he was opposed to a lunacy commission. It is significant that this attitude of Irwin's toward the lunacy commission reflects precisely that of Irwin's counsel, who opposed the appointment of a lunacy commission, preferring to go before a trial jury without inviting an examination and report by a commission concerning the sanity of his client.

Nor during any of the visits to the Tombs Prison of Irwin's counsel, and his conferences with counsel in the counsel room, which occurred from time to time, according to the evidence, does it appear that there was the slightest disturbance or disorder.

In the consideration of the issues before it, the Commission has not deemed it to be within its province to consider whether it is probable or improbable that a trial jury will find Irwin guilty of the crimes for which he has been indicted. The principal issue before the Commission is not whether, in common parlance, Irwin is crazy or sane. It is whether he is responsible for the crimes with which he is charged, so far as the defense of insanity is concerned, under the definition of what constitutes irresponsibility for crime under the New York Penal Law.

Upon this issue the Commission reports an opinion, believed to be sustained by a clear preponderance of evidence. Upon the issues considered, it has not been suggested that the Commission must require proof of sanity or insanity beyond a reasonable doubt.

Furthermore, while the record is voluminous and much testimony has been taken and many exhibits allowed in evidence, the Commission has confined itself, in reaching the opinion now reported to the court, to a consideration of such evidence as is relevant and material under the rules of evidence as understood and applied by the Commission.

To recapitulate: After careful examination and consideration of the material and relevant testimony and such personal observation of the defendant as there was opportunity to make, the undersigned are of the opinion that the said defendant was not in such a state of idiocy, imbecility, lunacy or insanity as not to know the nature and quality of the acts for which he has been indicted and not to know that the acts were wrong; that he is not in such a state of idiocy, imbecility, lunacy or insanity as to be incapable of understanding the proceedings or making his defense.

Dated New York, March 24, 1938.

Respectfully submitted,

ARCHIBALD R. WATSON, *Chairman*,
ISRAEL S. WECHSLER, M. D.,
CHARLES D. RYAN, M. D.,
Commissioners in Lunacy.

Comment.

THE SAN FRANCISCO MEETING.

On another page of this issue the secretary has briefly reported the proceedings of the ninety-fourth annual meeting and has pointed out some of its unique features. The meeting was memorable as the first to be held on the Pacific coast, the farthest previous excursions having been two visits to Denver, Colorado (1895 and 1911), and one to San Antonio, Texas (1905).

From its very inception The American Psychiatric Association has known no boundaries between the several communities of the United States and Canada taken as a whole; but as a corollary to the natural course of settlement and development of the two countries, majority representation has always come from the East. With the rapid enlargement of interest in mental health and social welfare within recent years, creating in all quarters common problems, it is high time for East and West to draw nearer together for the mutual advantage remarked by the President in the March issue of "exchange of ideas and opinion between representatives of all our commonwealths."

It is noteworthy that of the 139 contributions listed in the annual program, 30 were provided by members or guests from the State of California, and that a total of 54 (approximately 39%) emanated from centers west of the Mississippi. Of the candidates elected to membership at the ninety-fourth meeting, 39 (20%) reside in western states and provinces. There was ample evidence at this well attended meeting that the East was happy to visit the West, and there was equal evidence that the West was happy to welcome the East, as the unremitting care of Dr. Glenn E. Myers and his committee on arrangements so thoroughly demonstrated.

The annual dinner was made notable by the presidential address which deserves careful reading. Dr. Chapman surveys the state of the nation from the standpoint of the psychiatric services; he points to the regrettable regional inequality of these services as compared

with medicine and surgery; and he outlines some of the undertakings to which he believes organized psychiatry must give serious consideration in keeping pace with other departments of medicine, science and welfare work.

The ninety-fourth annual meeting was further memorable by reason of the tour which started from New York, proceeded by special train from Chicago over the southern route, being joined by additional members along the way, and following the meeting returned through the northern states. It was the first time such a feature had been arranged, and it served the double purpose of providing on each leg of the trip a week's holiday and sightseeing at minimum effort owing to the excellent planning of Mr. Davies; and further of making an opportunity under ideal conditions for members and their families and friends to become better acquainted with each other and to discuss at leisure mutual interests, as is scarcely possible during the busy week of the convention. The members of the tour were of one mind that this innovation might profitably become a precedent.

And so for divers reasons the annual meeting which has just passed into history will be remembered as one of unusual significance.

FREUD IN EXILE.

Quite irrespective of varying attitudes toward his teachings, it is safe to say that each member of The American Psychiatric Association and every reader of the JOURNAL is relieved and happy to know that Sigmund Freud is at length peacefully settled in England. It is comforting to realize that there are places in the world where the rights of the individual, freedom to live one's life and express one's thoughts are still respected.

On the occasion of his eightieth birthday two years ago the official gazette, the *Wiener Zeitung*, paid glowing tribute to Vienna's most famous citizen and thanked him "for his great services to his native land." Today at eighty-two and in frail health Freud is the victim of political persecution and the mad racial theories of a peculiar clique temporarily in power. He is dispossessed and an exile, but not without friends. Sympathy and assurance will be vouchsafed to him from all who love tolerance and who are willing to believe that certain inalienable rights should be enjoyed by all human beings.

In a peace-loving country there is prospect that Sigmund Freud may abide in comfort to pursue the work which is his life, to bring to conclusion what may be his crowning work—the psychoanalysis of the Bible—and in these compensations perchance to forget the hardships he has undergone, the low estate to which his country has fallen, the perversion of science and the eclipse of scholarship which are now her lot.

News and Notes.

MEETING OF THE AMERICAN PSYCHIATRIC ASSOCIATION.—The 94th annual meeting of The American Psychiatric Association was held at the Hotel Fairmont, San Francisco, Cal., June 6 to 10, 1938.

On Monday, there were meetings of the sections on convulsive disorders and forensic psychiatry. The meetings of the section on convulsive disorders were joint sessions with the American Chapter of the International League Against Epilepsy, including a well attended informal evening round table dinner meeting at which Dr. Kirby Collier presided.

The general session opened Tuesday morning, Dr. Glenn E. Myers, Chairman of the Committee on Arrangements introducing the local officials, welcoming the association, following the invocation by Reverend Richard T. Howley. President Chapman responded to the addresses of welcome and then presided.

The Association paid tribute to the memory of 19 deceased members, a special memorial to the late president Dr. James V. Anglin being read by Dr. Clarence M. Hincks.

Three section meetings on Tuesday afternoon included papers on the psychiatric aspects of general medical problems, studies in prognosis and studies from the laboratory.

On Wednesday, there was a joint session with the section on psychoanalysis and the American Psychoanalytical Association; also a symposium on psychiatric education and clinical pathological studies.

On Wednesday evening the annual dinner occurred at which the members and guests had the privilege and pleasure of hearing President Chapman present his most stimulating address, which is printed in this number of the JOURNAL.

Following the President's Reception, there was dancing until 1.30 a. m. with music furnished by the Alan Dohrman Orchestra.

On Thursday morning and afternoon there was a separate session of the American Psychoanalytic Association. Other sessions were

on therapy, administration, experiences with the pharmacological shock treatment of schizophrenia and studies in intoxication. On Thursday afternoon there was a joint session with the section on mental deficiency.

On Thursday evening there were 14 round table dinner discussions, the subjects being artificial fever therapy, child psychiatry, forensic psychiatry, group psychotherapy, occupational therapy, pharmacological shock treatment, psychiatric nursing, psychiatric social service, psychoanalysis in hospitals and clinics, psychosomatic relationships, standards for mental hospitals, suicide, treatment in schizophrenia and veteran administration.

On Friday, there were two sessions, the subjects being clinical studies and therapy.

Interesting scientific exhibits, including films showing various mental hospital activities were located near the meeting halls. The commercial exhibits included books, apparatus and other displays of interest to mental hospital administrators.

A special program for the ladies consisted of sightseeing trips, a Chinese dinner, a motion picture and a shopping tour.

In accordance with the report of the Board of Examiners and upon recommendation of the Council, the Association elected 34 to associate membership; 163 to membership; 24 transferred from associate membership to membership; and 11 transferred from membership to fellowship.

The following were elected officers for 1938-1939:

Richard H. Hutchings, M. D., President, Utica, N. Y.
William C. Sandy, M. D., President-Elect, Harrisburg, Pa.
Arthur H. Ruggles, M. D., Secretary-Treasurer, Providence, R. I.

Council members elected for three years: Ross McC. Chapman, M. D., Towson, Md.; Glenn E. Myers, M. D., Los Angeles, Calif.; Arthur P. Noyes, M. D., Norristown, Pa.; and Harry W. Woltman, M. D., Rochester, Minn.

Thomas A. Ratliff, M. D., was elected an auditor for three years.

The following were elected the officers of the sections for 1938-1939:

Section on Convulsive Disorders: Douglas A. Thom, M. D., Chairman, Boston, Mass., and David C. Wilson, M. D., Secretary, University of Virginia Medical School, Virginia.

Section on Forensic Psychiatry: Leroy M. A. Maeder, M. D., Chairman, Philadelphia, Pa., and James L. McCartney, M. D., Secretary, Boston, Mass.

Section on Mental Deficiency: C. C. Kirk, M. D., Chairman, Orient, Ohio, and Oscar J. Raeder, M. D., Secretary, Boston, Mass.

Section on Psychoanalysis: Nolan D. C. Lewis, M. D., Chairman, New York, N. Y., and Clarence P. Oberndorf, M. D., Secretary, New York, N. Y.

It was announced that the 95th annual meeting will be held in Chicago, Ill., during the week of May 8, 1939, the headquarters at the Palmer House.

The total registration was 1078, of which 284 were members.

Attendance at the San Francisco meeting was made especially enjoyable by the tour so ably arranged and conducted by the executive assistant Mr. Austin M. Davies. The 76 members and guests participating in the tour out and the 34 on the return trip were loud in their praises of Mr. Davies and his Secretary Miss Dorothy Rubenstein as hostess, who were constantly promoting comfort and pleasure and who relieved the members of the many details which would otherwise have been continual annoyances.

WILLIAM C. SANDY, M. D.

AMERICAN ASSOCIATION ON MENTAL DEFICIENCY.—The sixty-second annual meeting of the American Association on Mental Deficiency was held at Richmond, Virginia, April 20-23, 1938. Four hundred seventy-two members registered. The meeting this year, under the presidency of Dr. Harry C. Storrs, superintendent of Letchworth Village, Thiells, New York, was one of unusual interest. There were four sessions on each of the four days, making possible the presentation of 58 papers. In addition there were six round table luncheons, a trip to historic Williamsburg, an entertainment and dance at the presidential dinner, and a trip to Virginia State College at Petersburg where entertainment was supplied by the famous *a cappella* Choir, all of which made the Richmond meeting one long to be remembered. Microphone and loud speaker hook-ups added greatly to the enjoyment of the members. The session on Birth Injuries with Helen Willard, Edgar Doll, Winthrop Phelps, Bronson Crothers and Arnold Gesell contributing, filled the main ballroom to capacity with many standing in the back of the hall.

Officers elected for the coming year are: President, Dr. Neil A. Dayton, Director of Statistics, Massachusetts State Department of Mental Diseases, Boston, Massachusetts; Vice-President, Dr. Fred

Kuhlmann, Director, Division of Examination and Classification, Department of Public Institutions, St. Paul, Minnesota; Secretary-Treasurer, Dr. E. Arthur Whitney, Superintendent, Elwyn Training School, Elwyn, Pennsylvania.

Graduate Course in the Rorschach Method.—The Michael Reese Hospital, Chicago, announces a graduate course in the Rorschach method in personality study and clinical diagnosis by S. J. Beck, Ph. D., head of the psychology laboratory of the department of psychiatry, during a five weeks period from July 5 to August 6, 1938. The course will cover the test technique with clinical interpretation of results. The primary aim is to demonstrate the uses of this test in the personality study of both normal and abnormal subjects.

Membership in the course will be limited and preference given to applicants who have had at least one year's graduate experience in psychiatry or psychology. The fee for the course is $35.00. Information may be obtained by addressing the Medical Librarian, Michael Reese Hospital, 29th and Ellis Avenue, Chicago, Ill.

The Third International Neurological Congress.—The third International Neurological Congress will be held in Copenhagen during the last week of August 1939. Three symposia will constitute the special features of this Congress: (1) Autonomic nervous system, (2) Heredo-familial disease, (3) Avitaminoses with especial reference to the peripheral nervous system.

Officers of the Congress are as follows: honorary presidents, Sir Charles Sherrington, Oxford, Dr. Gordon Holmes, London, Dr. Bernard Sachs, New York; president, Professor Viggo Christiansen; secretary-general, Dr. Knud H. Krabbe, Copenhagen; vice-president for the United States, Dr. H. A. Riley, New York. The honorary membership includes Professors Harvey Cushing, United States, H. Marcus, Sweden, M. Nonne, Germany, K. Schaffer, Hungary.

Confinia Neurologica.—This new international bi-monthly makes its appearance with Volume I, No. 1 in the Spring of 1938.

It deals with the borderland of neurology and proposes to concern itself with the mutual relationship of neurology and surgery, oto-ophthalmology, syphilidology, endocrinology and radiology. Within this purview will be published complete or preliminary original articles, special reviews, society proceedings and book reviews. Articles may appear in English, French or German and original papers will be followed by summaries in these three languages.

The first number of Confinia Neurologica contains 84 pages and includes the following articles:

Von J. G. Dusser de Barenne, New Haven—"Simultane Bahnung und Auslöschung in der motorischen Hirnrinde."

H. M. Zimmerman, New Haven—"Newer Aspects of the Nervous Disorders in Avitaminosis.

F. H. Lewy, Philadelphia—"The Neurological Aspects of B Avitaminosis."

M. J. A. Barré, Strasbourg—"Sur l'interprétation des signes cliniques et des résultats des épreuves instrumentales en labyrinthologie."

In the review section the editor Dr. E. A. Spiegel, professor of experimental and applied neurology, Temple University, Philadelphia, presents a survey of "Recent Advances in Neurology of the Ear."

The editorial board includes 65 names from two dozen countries, the United States being represented by the editor Dr. Spiegel, and Drs. Bielschowsky (Hanover, N. H.), Dusser de Barenne (New Haven, Conn.), Temple Fay (Philadelphia), Fulton (New Haven, Conn.), Jelliffe (New York), Knapp (New York), Lewy (Philadelphia), Lillie (Philadelphia), Lorente de Nó (New York), McCarthy (Philadelphia), Putnam (Boston), E. Sachs (St. Louis).

The editorial office is at Temple University, Philadelphia. The publishers are Messrs. Karger, Basel, Switzerland.

Southern Psychiatric Association.—The annual convention of the Southern Psychiatric Association will be held in Atlanta, Georgia, October 10 and 11, 1938, under the presidency of Dr. George P. Sprague, superintendent of High Oaks Sanatorium, Lexington, Ky. For information inquiries may be addressed to the secretary, Dr. Newdigate M. Owensby, 714 Medical Arts Bldg., Atlanta, Georgia.

THE AMERICAN COLLEGE OF PHYSICIANS.—The twenty-third annual session of the American College of Physicians will be held in New Orleans, with general headquarters at the Municipal Auditorium, March 27-31, 1939.

Dr. William J. Kerr of San Francisco is president of the College and will have charge of the program of general scientific sessions. Dr. John H. Musser of New Orleans has been appointed general chairman of the session, and will be in charge of the program of clinics and demonstrations in the hospitals and medical schools and of the program of round table discussions to be conducted at the headquarters.

CORRECTION—FIFTH EUROPEAN MENTAL HYGIENE REUNION.—In the May issue of the JOURNAL it was erroneously stated in a news item relating to this meeting, that it was to be held in Monaco. The Fifth European Reunion will take place in Munich, August 22-23, 1938.

THE PSYCHIATRIC CLINIC OF THE COURT OF GENERAL SESSIONS, NEW YORK CITY.—The Psychiatric Clinic of the Court of General Sessions of New York City was established in December, 1931. It had been the practice of the Probation Department of that Court to send various probationers to different clinics throughout the city for psychologic, psychiatric and physical examinations. It was recognized that it would be desirable to have all offenders examined by a single clinic. As a result of a conference among leading judges, penologists and psychiatrists, the Psychiatric Clinic of the Court of General Sessions was established as a part of the Psychiatric Division of Bellevue Hospital.

The purpose of the clinic was to "give every convicted person a thorough psychiatric examination, even though he is believed to be entirely normal," prior to sentence. The function of the clinic as conceived at the present time is not only to examine for the presence of mental disease or mental defect, but also to attempt to evaluate the personality of each prisoner examined and to formulate it in positive terms so that it will be of assistance to the judge in passing sentence, or to the Probation Department in supervising the individual in the community.

The report for the year 1937 shows that the clinic, operating under the direction of Dr. Karl M. Bowman, Director of the Psychiatric Division of the Department of Hospitals, was composed of the following personnel: Walter Bromberg, M. D., Psychiatrist in Charge; Charles B. Thompson, M. D., Senior Psychiatrist; David J. Impastato, M. D., Junior Psychiatrist; Solomon Machover, M. A., Psychologist.

During the year 1937, 2698 prisoners were examined, of whom 2569 were men and 129 were women; 1681 prisoners were white, and 1002 were black. The largest number in any five year age period was between the ages of 16 and 20 years, 24 per cent of the prisoners falling into this group, and 22.5 per cent in the age period between 21 and 25. There was a gradual decrease as the ages increased, which might be accounted for on the basis of the percentage of population in any particular age period. Of the total number of cases examined by the clinic, 17, or .63 per cent, were considered insane. An additional 26 were examined and pronounced insane by lunacy commissions. In other words, 43 cases, or a total of 1.6 per cent of the total number of convicted felons of New York County, were found to be insane during the year 1937. It should be pointed out, of course, that many prisoners arrested and charged with felony were seen prior to trial and found to be insane, and that the charge in such cases might be dropped or altered to a lesser degree to allow commitment to a state hospital. Therefore these figures should be thought of as relating to convicted felons, and not to all prisoners arrested. A total of 114 cases was found to be suffering from a neurosis. 197 were diagnosed as psychopathic personalities, and 83 were diagnosed as mentally defective. 136 were found to have disease of the central nervous system; 82 were considered to have definite endocrine disorders. Syphilis occurred in 192 individuals, and acute gonorrhea in 57 cases.

Due to the recognized need for psychotherapy for prisoners on probation or parole, attempts have been made to carry out some form of treatment. Cases placed on probation, cases that have gone off probation and still require treatment, and cases from the New York City Penitentiary have been treated either at the mental hygiene clinics of Bellevue Hospital or Kings County Hospital,

or by a special treatment clinic as a part of the clinic of the Court of General Sessions. This work was effected in part through probation officers supervising the cases. 45 such cases were seen for follow-up treatment at the court clinic.

The figures for psychosis, mental deficiency, psychopathic personality and neurosis have run fairly constant for several years. The diagnosis of psychopathic personality decreased materially in 1935, when the psychiatric criteria of diagnosis of psychopathic personality were adopted and the criminologic criteria were eliminated, so that chronic antisociality was one point in making the diagnosis of psychopathic personality. Since 1935 there has been no important change in the figures for psychopathic personality.

Various research projects are being carried out at this clinic, and a number of publications have appeared from it.

DIPLOMATES.—The following diplomates of the American Board of Psychiatry and Neurology were certified at the meeting in San Francisco, June 11, 1938:

CERTIFIED BY EXAMINATION.

PSYCHIATRY AND NEUROLOGY.

Chor, Herman	Chicago, Ill.
Kepner, Richard DeMonbrun	Honolulu, Hawaii.
Johnson, George S.	San Francisco, Calif.
Luhan, Joseph A.	Chicago, Ill.
Pouppirt, Pearl Sylvia	San Francisco, Calif.
Ruhberg, George Noel	St. Paul, Minn.
Somers, Melvin Ralph	San Francisco, Calif.
Ziskind, Eugene	Los Angeles, Calif.

PSYCHIATRY.

Adams, Burton W.	Oakland, Calif.
Banay, Ralph S.	New York, N. Y.
Hutchens, Wendell H.	Portland, Oregon.
Lemere, Frederick	Seattle, Wash.
Nielsen, Juul C.	Ingleside, Nebr.
Russell, Ernest F.	Santa Barbara, Calif.
Valens, William Lyall	Compton, Calif.

CERTIFICATION ON RECORD.

Psychiatry and Neurology.

Adams, Rayford Kennedy.....Skillman, N. J.
Ashmore, Buell Leslie.....Des Moines, Iowa.
Burley, Benjamin Thomas.....Worcester, Mass.
Carmichael, Francis Abbott.....Fulton, Mo.
Deppe, Arthur H.....St. Louis, Mo.
Eaton, H. Douglas.....Los Angeles, Calif.
Goodwin, Harold C.....Springfield, Mass.
Gosline, Harold Inman.....New York, N. Y.
Graham, Rossner E.....Oakland, Calif.
Hammes, Ernest M.....St. Paul, Minn.
Helmer, Ross D.....Utica, N. Y.
Holbrook, Charles Shute.....New Orleans, La.
Notkin, John Y.....Poughkeepsie, N. Y.
Rosanoff, Aaron J.....Los Angeles, Calif.
Rothenberg, Simon .....Brooklyn, N. Y.
Rubinowitz, Alexander H.....New York, N. Y.
Schaller, Walter Frank.....San Francisco, Calif.
Shapiro, Hyman D.....Washington, D. C.
Stadtherr, Edward F.....San Francisco, Calif.
Timme, Arthur R.....Los Angeles, Calif.
Trippe, Clarence Morton.....Asbury Park, N. J.
Twitchell, Edward W.....San Francisco, Calif.
Winkelman, N. W.....Philadelphia, Pa.

Psychiatry.

Baber, E. Armitage.....Cincinnati, Ohio.
Duval, Leon E.....Ionia, Mich.
Elliott, Annie R.....Norristown, Pa.
Hammers, James S.....Lancaster, Pa.
Henry, Hugh C.....Petersburg, Va.
Hill, Ralph Lee.....Wernersville, Pa.
Hoffman, Harry F.....Allentown, Pa.
Katzenelbogen, Solomon .....Baltimore, Md.
Knopf, Olga .....New York, N. Y.
McLaughry, Elizabeth .....New Wilmington, Pa.
Peck, Martin W.....Boston, Mass.
Rado, Sandor .....New York, N. Y.
Robertson, Perry C.....Ionia, Mich.
Vernon, James W.....Morganton, N. C.
Sherman, M. Mortimer.....Brooklyn, N. Y.
Steele, Edson Hun.....Los Angeles, Calif.
Wexberg, Erwin .....New Orleans, La.

Neurology.

Greene, Ransom A. (Complementary).....Waverley, Mass.

APPOINTMENT OF DR. KATZENELBOGEN.—Announcement is made of the appointment of Dr. Solomon Katzenelbogen as director of laboratories and research at Saint Elizabeths Hospital, Washington, D. C. Dr. Katzenelbogen has been associated with the Henry Phipps Psychiatric Clinic in Baltimore since 1928, and is at present associate professor of psychiatry at Johns Hopkins University Medical School. He is well known for his numerous contributions to the literature of psychiatry, and his interests cover a large field within that specialty.

Dr. Katzenelbogen takes up his duties at Saint Elizabeths Hospital on July 15, 1938.

NEUROPSYCHIATRY AT WASHINGTON UNIVERSITY, ST. LOUIS.—Dr. Philip A. Shaffer, dean of the Medical School of Washington University, announces the establishment of a new department of neuropsychiatry, made possible by a generous grant from the Rockefeller Foundation. The work of the department as presently outlined will fall into three divisions, each under a professorial head. Dr. David W. Rioch, associate professor of anatomy at the Harvard Medical School, has been appointed professor of neurology and administrative head of the new department; Dr. John C. Whitehorn, director of laboratories, McLean Hospital, Waverly, Mass., will become professor of psychiatry; and Dr. Carlyle F. Jacobson, assistant professor of psychology at Cornell University Medical School and member of staff of the Payne Whitney Clinic, New York, will be professor of medical psychology. Dr. Sidney I. Schwab, professor of clinical neurology, and other members of the present staff will continue in the new department.

Book Reviews.

AN INVITATION TO READ. The use of the book in child guidance. (New York Municipal Reference Library, 1937.)

This list of books was prepared by a committee appointed by the Mayor of New York for use with the children in the city courts.

The committee was composed of a psychiatrist, two children's librarians, a civic librarian, a teacher of English and two judges of the Children's Court. These, having "surveyed the entire field of literature and youth have submitted for approval a limited number of the best titles for a basic list." In the foreword the committee points out that "this list is not a traditional reading list, does not include all the classics usually prescribed, nor does it contain all the books that would appeal to the children for whom this list was intended."

The selection is made with the idea of limiting the number of titles to make this a practical buying list, and of choosing those titles which will be attractive at sight, easy to "get into" and provocative of interest to children who have not been previously familiar with the pleasure of reading and whose interest in books is not easily stimulated. Each book has an annotation, informational in character, making it possible for someone unfamiliar with the book to help the children in their selection, although the committee urges the presence of a trained children's librarian wherever possible.

The list is graded by reading ability into four sections:

1. Grade 1-3
2. Grade 4-5
3. Grade 6-8
4. Grade 9-12

The first two of these divisions are again subdivided by content such as Simple Information, Poetry and Music, Fairy Tales, Realistic Stories, Picture Books, First Joys of Reading. This system is not carried out for grades 6-12. If this had been done it would have obviated the necessity for the cumbersome "subject index" at the end of the book, and would have fostered a more balanced collection of books in the upper grades. The earlier grades show a choice of wide interest both practical and imaginative, literary distinction, and outstanding illustration. It is in this first group that the books chosen correspond most nearly with our own library reading lists. In the older grades the attractiveness of format is still preserved, but less stress is laid on creative and imaginative writing and more on factual material and the contemporary scene. It seems regrettable that in these latter grades there is nothing to arouse the children's curiosity about art or music. There is no book of poetry, no story of courage and heroism such as Roland, or the Viking heroes Grettir and Sigurd, yet these children

are as susceptible to such suggestion as the boys and girls who crowd into our libraries.

It is easy to understand why there is a predominance of stories in this list which are written with the definite purpose of developing the theme of youth problems and how they are met by the particular heroes and heroines in these books. I would like to see some of these acceptable but commonplace books replaced by others which adhere to the same fundamental principles of behavior but which have, at the same time, more spontaniety, more penetrating insight into human character and more outstanding literary qualities. A particular instance may help to illustrate this point. Experience in using NcNeely's "Jumping-off Place" and Ransome's "We didn't mean to go to sea" with children has shown that they read both books with equal enthusiasm and enjoyment. These two stories have several things that are similar about their themes. Both tell a story of children under conditions which require endurance and courage: both meet their difficulties with fortitude and ingenuity. But the living qualities in the characterization, style and conception of the Ransome book will bring a child into closer contact with the basic problems of life than the somewhat self-conscious idealism of "The Jumping-off Place." If children, whose judgments and tastes are still unformed, read these two books with equal pleasure, I would like to see that they have an opportunity of becoming familiar with more books which are of the calibre of "We didn't mean to go to sea." It is not the social background of children that provides a barrier to literary appreciation but a lack of familiarity and encouragement to read the best things while their minds are still flexible and able to be influenced. The national emphasis in the book selection would limit the usefulness of the list outside of the United States but it is easy to see why the committee felt this was a wise choice of subject, and it has a definite value to the children for whom this list was designed.

On the practical side I would recommend separating informational material on people and places from information on things to do. These are not interests which go hand in hand and in a list of this kind the choice of books on hobbies, and simple practical science is most important.

The experiment is an interesting one from the point of view of the psychologist as well as the librarian. I like especially the broad outlook of the committee and their evident freedom from prejudice. The usefulness of the list would seem to be assured by the flexible attitude of the committee toward the experiment in general and toward the list in particular, and it is this attitude which will bring about the best and most permanent results.

LILLIAN H. SMITH,
The Public Library of Toronto.

THE NOVEL OF ADOLESCENCE IN FRANCE; THE STUDY OF A LITERARY THEME. By *Justin O'Brien, Ph.B., A.M., Ph.D.* (New York: Columbia University Press, 1937.)

"Literature," said Matthew Arnold, "is the criticism of life." Perhaps in most instances literature is a phase of life, especially if it is agreed with

Anatole France that "all who flatter themselves that they do not write themselves into their work are the dupes of the most fallacious illusion." This is undoubtedly most true in connection with the literature dealing with the adolescent. As O'Brien implies, "literature, and within literature the novel, reflects most sensitively and most rapidly, if not always most accurately, the fleeting color of its age." And, citing Marcel Brion, he characterizes "confessional literature as a liquidation of adolescence."

In this "study of a literary theme" substantial evidence is offered to show not only that the novel of adolescence is replete with descriptions of "the most amorphous of the ages of man," but that here the psychologist was long anticipated by the novelist. In summarizing his study of over one hundred novels which were written from 1890 to 1930, O'Brien states:

"The image of adolescence created by French novelists of the past forty years accords very closely with the observations of the scientists who have made a special study of that life period. Yet the novelist and the scientist have generally arrived at their conclusions independently of each other; in such matters their methods are diametrically opposed since the one is analytical while the other aims to synthesize. We know, moreover, that the first novels of adolescence antedate by several years the earliest studies of the subject. In fact, one of the most significant of the novels with which we have dealt, the *Jean-Christophe* cycle, gives such a singularly complete and truthful picture of normal adolescent experience and psychology that its outline might seem to have been borrowed from the table of contents of an analytical study; yet it was written, and for the most part published, before the appearance of any such scientific work."

The novelist, as is true of any type of creative genius, manifests an intuition and an insight that carry him beyond the realms of the prosaic scientist. Because of this one need show neither hesitancy nor reserve in using works of literature as clinical textbooks. How evident this is particularly when the psychiatrist endeavors to fathom the deeper meanings of those who have been "wrecked on the rocks of puberty!" G. Stanley Hall, the pioneer psychologist of adolescence sensed this when he pointed out the value of "ephebic literature." Literature surely has much to teach regarding that which Jules Laforgue calls in one of his poems "la complaint des pubertés difficiles."

The forty year period which O'Brien has reviewed so assiduously marks an epoch in the history of the study of the adolescence problem. The various factors associated with the awakening at puberty, with all the implications in the field of mental hygiene, had generally been ignored by the novelist no less than by the scientist. No distinction, generally speaking, had been made between childhood and adolescence; there was hardly any mention of those trying years of readjustment, of the revolt against society, of distorted dreams and mental mechanisms. Confining himself to the male adolescent, and solely to novels in which the central character remains adolescent throughout the entire tale, O'Brien has traced the evolution of his theme to demonstrate how the writer has stressed and finally overstressed the mental and spiritual growing-pains of his protagonist.

In an admirable summary, in the first part of his book, of the extra-literary interest in adolescence, the author gives a compact definition of his subject which is worthy of quotation:

"Adolescence is preëminently a period of transition between childhood and maturity, and the adolescent partakes at once of the child and of the man. The intellectual and sexual awakening, expressing itself in an almost universal sympathy which diversely and simultaneously takes the form of love, friendship, and enthusiasm and manifests itself to groups and ideas as well as to individuals, forces the adolescent to adapt himself to things outside himself. At the same time, he is becoming more acutely conscious of his own personality. Thus it is that he is torn between the need of recognizing authority, of conforming, and of imitating and the equally insistent need of throwing off authority and establishing his independence through solitude, flight into the world of imagination, or open revolt. From this conflict of impulses, from this disequilibrium which in some cases may be resolved into some sort of stability at eighteen and in others not until after the twenty-first or even the twenty-fifth years, arise uncertainty, spiritual restlessness and often great disillusion."

The problem, then, to which O'Brien applies himself, is the manner in which these situations are handled in literature. Paraphrasing Albert Thibaudet, he finds that the greatest task of the novelist "is to bring order out of chaos without entirely suppressing the confusion which is such an essential part of any picture of adolescence." Furthermore, it can be asked whether there has been "any appreciable progression in the literary understanding of the adolescent." That novelists have fulfilled both of these expectations, O'Brien is convinced.

Dividing his critical analysis into five categories, he finds first an adequate treatment of the all-important phase of "physical awakening." Although the personality of the adolescent can by no means be entirely explained by reference to the sexual impulse, still the majority of the emotional states during these formative years rotate around ideas of sex. O'Brien points out how the novelist deals with the birth of sex consciousness, and the closely correlated factors of onanism, homosexuality, seduction, temptations and resistances, and comments: "Whether they are thesis novels or premature autobiographies, the novels of adolescence almost invariably testify to some early deviation of the sexual instinct." There is no aspect of life so tangible or memorable as the birth of sexuality, because from this springs the modern concept of adolescence as a crisis. Because of this, the psychiatrist can go to the novelist with a great deal of profit.

G. Stanley Hall remarked that the development of the sex function is perhaps the greatest of all stimuli to mental growth. The novelist has recognised a mental as well as a physical puberty, and as O'Brien states, "nothing is more characteristic of the adolescent mind than the readiness with which all other faculties abdicate before the imagination." Literature stimulates the young intelligence more than music and the arts; one finds a strong religious feeling and a tendency towards conversion, with an impressive concept of the significance of sin. In addition, "regardless of the

adolescent's intellectual gifts or his illusions of future fame, it is nonetheless true that between puberty and maturity he possesses more intellectual enthusiasm and a greater inclination toward abstract thought than he is ever likely to manifest in later life."

In reference to the sympathetic impulse, there is found the dawn of awareness of an outside world, with the necessity of adaptation to it. The "exteriorization of the ego progresses gropingly," and finds its outlets in love and in dreams of love, in friendship and in exalted intimacies. Outstanding is this preparation for love, with the awakening of an affection other than that for one's family. Closely associated with this is the egoistic impulse, revealed by self-isolation, by escape through imagination into dream worlds, by open revolt, by shyness, and by a sense of being misunderstood by the immediate family. A final trait is grouped under the general concept of spiritual unrest and disillusion, ranging from moderate dissatisfaction to suicide. O'Brien has shown very effectively that novels are human documents, which, particularly in the field of the psychology of the adolescent, constitute invaluable source-books for the psychiatrist.

Louis J. Bragman, M. D.,
Binghamton, N. Y.

Sexual Power. By *Chester Tilton Stone, M. D.* (New York: D. Appleton-Century Company, 1937.)

This book, one of the Appleton Popular Health Series, causes the reviewer some difficulty. The author states in his foreword that "An effort has been made . . . . to present the essential facts about impotence in sufficiently non-technical language for the lay reader, and still in such a manner that the general practitioner may have a picture to refresh his memory." It should not "be expected to contain the wisdom of a library."

The difficulty is to strike an even balance between the merits of the book and its defects which are probably both inherent in the attempt to achieve two purposes in one very short volume. It is written in an easy, readable manner, with broad tolerance and understanding and handles this somewhat delicate subject in a way which should give offence to no one. It contains in understandable form certain information with regard to sexual relations which is probably not widely enough known and when read by physicians will very likely not only refresh their memories as the author hopes, but may give many of them a broader point of view and a desire to know more of the subject. To the layman suffering from impotence it may bring an understanding of certain psychic factors underlying his trouble and this understanding itself may be helpful. It may lead him to a physician who may remove the physical cause if it be a physical cause. If the cause be psychic and too obscure for the reader himself to understand he is advised to consult a physician. The reviewer, being a layman, wonders how many physicians would, even if interested, be competent to afford much help.

In a popular book it may be necessary to be somewhat dogmatic and to avoid cluttering the pages with references in footnotes; but it seems a pity

that there is no bibliography whatever and that there are only three references to other books on the subject two of which are to another book by Dr. Stone. Such statements as "less than 50 per cent of all civilized men enjoy normal sexual potency" and "99 per cent of all men have masturbated at some time or other," to quote only two of many statements made as facts without authorities, do not incline the reader to credulity and, I am afraid, considerably reduce the usefulness of the book as a whole.

H. B. SPAULDING, PH. D.,
Toronto.

THE BASIS OF CLINICAL NEUROLOGY: THE ANATOMY AND PHYSIOLOGY OF THE NERVOUS SYSTEM IN THEIR APPLICATION TO CLINICAL NEUROLOGY, By *Samuel Brock, M.D.* (Baltimore: William Wood & Company, 1937.)

This is one of our best books on Clinical Neurology. The author lives up to his basic premise that a successful approach to the understanding of disease of the nervous system requires a thorough knowledge of neuro-anatomy and neuro-physiology. The book is divided into twenty-four chapters to include the peripheral nervous system, spinal cord, brain stem, cerebellum, epithalamus, extrapyramidal systems, the brain, the vegetative nervous, posture and the cerebrospinal fluid. Each chapter is well organized and presents reliable information concerning neurological signs and symptoms. There are numerous excellent charts and illustrative tables of great value to the practicing neurologist and psychiatrist. For instance, table three presents concisely the differences between upper and lower motor neurone paralysis and table eight a differentiation between conus and cauda lesions. Table twelve shows the syndromes of the brain stem. Chapter fifteen, covers the epithalamus, the role of the thalamus in sensation, and the hypothalamus control of vegetative functions. In the discussion of the pituitary gland important recent work not found in other text books of neurology is presented. Likewise chapters seventeen, eighteen, nineteen present the general functions of the brain in relation to symbolic thinking; and to conditioned and unconditioned reflexes, to inhibition and effector discharges, as well as special functions of the frontal, temporal, parietal and occipital lobes.

In short, this book is recommended without reservation to students and clinicians of this important phase of medicine.

F. G. E.

NEUROLOGY. By *Roy R. Grinker,* Second edition. (Springfield, Ill.: Chas. E. Thomas, 1937.)

One admires the versatility and wide reading that the author of this book must have done to write the first edition and now to bring it up to date in the second. The reading and abstracting, however, have left their imprint on the style; one feels that the book is a patchwork, not sufficiently knit together by a mature point of view. This is, of course, an advantage in some ways, for the opinions of various investigators are brought forward

but often without constructive comment. A shorter book with less quotations from different authors would have been more convincing. A longer book would be more authoritative. This book falls between. The discussions of treatment, however, are concise, sound and express personal opinions evidently backed by experience and commonsense.

In the second edition new material has been added and much revision made in the chapter on the vegetative nervous system (XI). Such recent advances as electroencephalography are discussed both in relation to the physiology of the cortex, and to clinical application as in epilepsy. Tracings are shown from the original workers which refute the text, for the waves in the grand mal are fast, not slow as Grinker states; also he used the ambiguous term "psychomotor attack" to denote what Lennox calls the "psychic variant" and "automatism." Why not the time honored but sound word "fugue"?

The chapter on the cerebral cortex is broadly inclusive; the theories of Head, Herrick, Lashley and Goldstein are epitomized and lead up to a good description of Fulton's recent work on the frontal lobe. Chapter XX on inflammatory diseases of the nervous system describes in fifty pages the bacterial invasions of the brain, especially infections, abscesses, etc. The next chapter of nearly fifty pages takes up encephalitis and virus infections in a thorough manner, up to the St. Louis epidemic of 1933. The new material on neuritis mentions, but does not emphasize, the new discoveries concerning vitamin deficiency.

The book is well written, but there are many minor mistakes in references, spelling and the use of words. It strikes the reviewer as more of a *tour de force* than as a labor of love.

STANLEY COBB.

ALCOHOL: ONE MAN'S MEAT. By *Edward A. Strecker, M.D.*, and *Francis T. Chambers, Jr.* (New York: Macmillan Co., 1938.)

This book is the joint effort of a very experienced psychiatrist who has seen alcoholism as only one of his many interests, and an associate in therapy, not a medical man but working in a medical setting, who has devoted himself to the treatment of alcoholism alone. There is a disarming introduction by the medical author which quotes statistics from the insurance companies which have not been seen before.

The authors describe alcoholic persons as emotionally immature, introverted and neurotic. Only among these are good risks for treatment found. They have to be separated from the great mass of excessive drinkers who are psychotic, psychopathic, or feebleminded. The statement that ninety per cent of alcoholics coming voluntarily for treatment are introverted is rather startling in view of the general conception that the average drinker is jolly, sociable, and popular. However, the authors make out a very good case for the idea that the neurotic drinker is an insecure and self-critical human being, desperately trying to be extroverted. A study of the neurotic groundwork tends to show that the alcoholic's personality is unsatisfactory to him not because of its defects but because of its lack of organization.

A splendid part of the book is the description of the treatment of alcoholism because the different steps are clearly given and nothing is slighted. The patient, in a hundred hours of organized psychotherapy extending over a year, is gradually made to face the real reasons for his drinking. The old immature emotional level is made unsatisfactory to him and he is led to a non-alcoholic adjustment in an adult world. In the beginning of treatment the patient is shocked by the statement that he cannot drink at all, that he is in one sense allergic to alcohol and that no half way measures will be tolerated. Detailed examples are given of schedules and of interviews. The last chapter is a discussion of nutritional factors by Dr. Palmer.

The book makes acknowledgments to Richard R. Peabody. It makes no claims as to the percentage of cures. The reviewer, however, who has had a chance to observe the method, is inclined to think that those patients who survive rigorous selection for treatment have an even chance of reaching a non-alcoholic adjustment to life.

EARL D. BOND, M. D.,
University of Pennsylvania.

EMOTIONAL ADJUSTMENT IN MARRIAGE. By *Le Mon Clark, M. D.* (St. Louis: C. V. Mosby Company, 1937.)

This is another practical book written for the guidance of those about to be married or already married. The author is a gynecologist and obstetrician and apparently is not too familiar with psychiatric or psychoanalytic thought. The result is a vocabulary and a point of view which are different from many books on the subject. The book is written at a common sense level, using simple terminology, and obviously intended for the instruction of persons with little technical knowledge of the subject. The book, therefore, is essentially a very practical book for the average individual who wants information on this subject, and as such, it is to be thoroughly recommended. The information given is correct and well presented, and the manner of presentation is such that it should give offense to no one. The chapters on birth control seem an excellent summary of the subject to place in the hands of the general public. The very specific instruction with regard to frigidity, the honeymoon, pre-marital consultation, and marital adjustment generally, as well as the chapter on divorce, is the type which may be passed out freely for general reading.

By way of criticism, it may be said that there is too much repetition in the book, although it may be argued that such repetition merely reenforces the value of things for the average lay reader. There is also a rather easy acceptance of a few controversial points on the basis of statements by authors whose opinions are perhaps not universally accepted.

On the whole, the reviewer feels that this is a book which can be thoroughly approved for placing in the hands of the laity, particularly persons about to be married.

K. M. B.

MIND, MEDICINE AND METAPHYSICS. By *William Brown*. (London: Oxford University Press, 1936.)

This collection of essays and lectures carries the sub-title "The Philosophy of a Physician." Consequently, the reader will expect a great deal, for several reasons. In the first place, if he knows the author in connection with his open-minded and trenchant contribution in the field of mental measurement (particularly as co-author with Thomson and with Stephenson), he will expect the considered and mature philosophic comments of an objective scientist, exact and meticulous in his published pronouncements. If he thinks of him as the successor—in the Wilde Readership at Oxford—of such contributors to the history of thought as Stout and McDougall, he will anticipate a realistic systematization of the mental sciences that will pay homage to the facts of experiment on the one hand, and to the human significance of "purpose" on the other. If he regards him as the first director of the newly created Institute of Experimental Psychology in the University of Oxford, he will look for leadership regarding the significant directions that psychological research might take during the next decade, directions that would clarify the position of psychology as distinct from metaphysics on the one hand, and physics on the other. If he recalls his eminence as psychotherapist, he will seek the recorded insights of one who has probed the essence of human aspirations. Accepting him purely in the role of physician, he will at least expect him to present a warmth of human sympathy controlled by the cautions of everyday realism. And finally, if he merely surveys the topics of the essays and lectures—extending, as they do, from the ordinary matters of bodily care, through the "sharings" of the Oxford Group, to the ultimate destiny of the soul,—he will anticipate a short-cut, clear-cut synthesis of everything.

In any case, he will be disappointed. The reviewer has a profound respect for the author of this book. But he has, at the same time, a marked feeling of disappointment after a careful perusal of the author's survey of his own confession of faith.

The subject matter of the book is broad indeed—so broad, in fact, as to be baffling to the reviewer, and possibly to the reader, although he will undoubtedly be interested. The topics discussed include psychology and medicine, suggestion, psycho-analysis, sex control, the sexual problems of adolescence, sleep, hypnosis, mediumistic trance, character and personality, the psychology of international relations, moral obligation and freedom, self-determination, confession, psychology and religion, the Group Movement, the survival of personality; and, as if this were not enough for your money, appendices tell of psychology at Oxford, and the psychology of war and peace.

It is not possible to discover any clearly defined thesis that pervades the author's discussions of these topics. The treatment throughout is obviously based upon some form of idealism; but the form is not sufficiently recognizable to make possible a judgment upon its consistency or inconsistency. The layman will be interested, as he always is, concerning what he thinks

he ought to know about psychology. The scientist will probably find opinions on various matters expressed in such a way as to intrigue his speculative nature, although he will still be looking for evidence. But neither science nor metaphysics will be very much influenced by this volume.

The book is easy to read, for it is skillfully written. But, as with many of its kind, one wonders whether the cause of truth or of idealism can really be advanced by expressions of personal sentiment, inadequately cloaked in the pseudo-scientific language of psychotherapy.

W. LINE,
University of Toronto.

MANUAL OF PSYCHIATRY AND MENTAL HYGIENE. Seventh edition. By *Aaron J. Rosanoff*, M. D. (New York: John Wiley & Sons, Inc.; London: Chapman & Hall, Ltd. 1938.)

The present work, the reviewer believes, is the oldest textbook of psychiatry in English which has been continuously in use since the first edition, which appeared in 1905. That first edition was an authorized translation by Rosanoff of the French "Manuel de Psychiatrie" by J. Rogues de Fursac which was published in France in 1902. Although the early editions appeared under the authorship of de Fursac, the contributions of the translator and editor expanded with each new edition until in the later ones very little remained of the French original. In the present edition, which has been almost entirely rewritten and still further enlarged, containing now 1091 pages, Rosanoff presents a comprehensive and up-to-date textbook.

That any textbook—particularly in psychiatry—can be an entirely satisfying presentation of the field, no one, least of all the author of this work, would maintain. It is, however, a well-organized treatise, consistently evolved from the earlier editions, the purpose of which has remained the same throughout, "to make a working manual by presenting a description of the material of the psychiatric clinic, and methods of dealing with it—that is to say, techniques of diagnosis, prevention and treatment."

In Part I separate sections are devoted to etiology, symptomatology, neuropsychiatric syndromes, general pathology. Formalistic, definitive modes of presentation are avoided, and the author warns against traditional but unscientific usages which still prevail, *e. g.*, the misuse of such terms as "organic," "functional," "idiopathic." In the discussion of etiology there is scant reference to the vastly important subject of psychogenesis; indeed the strictly subjective aspect of mental illness is rather neglected, but this is perhaps in keeping with the author's position that psychopathology is merely "a special aspect of cerebral pathology." Those who are interested in knowing what morbid mental states mean in terms of the patient's own experience will be disappointed that this part of the picture is left dim.

To take an example: there is a fairly full discussion of suicidal syndromes as phenomena, with statistics from the latest literature; but we are not told *why* persons commit or attempt suicide, save for the circumstance that

many of them are psychotic. The various types of motivation and the pathogenesis of suicidal trends are not exposed. Moreover, the question is raised whether all suicides are insane—whether a really sane person ever commits suicide, as the matter is popularly put. The question is left unanswered. Perhaps that is the part of wisdom.

In his classification (Part II) Rosanoff follows an orthodox medical tradition and begins with the mental disorders having conspicuous "physical" symptoms and first of all with that complete and perfect and terrible disease, Huntington's chorea. Then follow other hereditary and congenital conditions, sequellae of birth and postnatal trauma, infections and poisons, endocrine and nutritional disturbances, brain tumors and the degenerative conditions of the involutional and senile periods.

So far the reader, accustomed to the perusal of textbooks, follows without serious jolt; but now comes the place where in older texts one usually found the conditions called "functional"—manic-depressive psychosis, schizophrenia, paranoid states, etc., but they are not here. Instead we find first a chapter on "chaotic sexuality" including a number of striking case histories, chiefly of various types and degrees of homosexuality, some remaining adjusted, others leading to mental disorder (neuroses, suicide, hallucinatory experiences, schizophrenic psychosis, persecutory syndrome leading to murder). In this group, which includes schizoid, paranoid and other syndromes, the frequency of homosexuality is stressed and its genetic nature set forth.

Under affective reaction groups are discussed the "so-called manic-depressive psychoses," and here we have the varied familiar pictures, well illustrated by case histories. There are included interesting pathographies of the poet William Cowper and the scientist Robert Mayer, both of whom suffered from recurring attacks of this psychosis.

The remainder of this section is devoted to antisocial personalities, mixed, transitional and miscellaneous groups and various temperament types.

Part III deals with methods of investigation, therapeutic techniques including a chapter on psychoanalysis with postscript by Hyman, medicolegal questions, military and industrial psychiatry.

Mental hygiene, which the author treats of in Part IV (80 pages), he defines as "the science and practice of the preservation of mental health and efficiency, envisaging a threefold purpose: (a) the securing, as far as may be possible, through eugenics and otherwise, of satisfactory intellectual and temperamental inborn endowments for all persons; (b) such adjustments, physical, educational, vocational, social, sexual, etc., as would result in the fullest and happiest utilization of inborn endowments and capacities; and (c) the prevention of mental disorders." He gives sound advice on the avoidance of procreation in the presence of such familial disorders as Huntington's chorea, amaurotic family idiocy and hereditary types of mental deficiency, as well as in other conditions in which heredity plays an important part. Various eugenic measures—marriage restriction, contraceptives, segregation, sterilization—are adequately discussed. To leave nothing unsaid, the contraceptive pessary is described and illustrated, with detailed instructions

in its use. Health measures of infancy, prevention of syphilis, the alcohol or drug habit, and the mental hygiene of childhood and adolescence are all well covered.

In Part V are described special diagnostic procedures, serological, chemical, psychological, including intelligence tests and the Kent-Rosanoff association tests. Among the chemical tests, that for bromide in the blood in the not infrequent cases of bromide poisoning has not been included.

In appendices in Part VI are found the official classification of mental disorders with the descriptive notes of the New York State handbook, height and weight norms and tables of intelligence quotients.

In some ways Rosanoff's book departs significantly from the pattern of the traditional textbook. His nosological scheme is doubtless open to criticism, as all such schemes are; but it does psychiatry a service in throwing doubt upon the validity of certain long accepted diagnoses which through the years had come to have an individuality of their own to which they were dubiously entitled. This work, in its aim at practical usefulness, avoids with reasonable success speculative discussions; and it reflects some of the more important psychiatric trends in these changing times. The comments on psychotherapy are disappointingly meager, and there will be those who will protest against the elimination of the psychoneuroses as a clinical group. In the author's presentation, however, there is a corrective note which is salutary, and some of the criteria which have been held to distinguish neuroses from psychoses can well be dispensed with.

The work is well documented from the literature, contains extended quotations from other authors, and more than a hundred case histories are incorporated in the text which is also illustrated. A special feature is the combined glossary and index occupying 65 pages. Here will be found definitions, concise statements of various psychiatric concepts and, in résumé, the author's position on the important controversial issues discussed in the text.

This book may not be as comforting as some of the more conventional ones to the enquirer who likes his information well pigeon-holed; but it will prove intriguing, stimulating and useful for the student of psychiatry as a discipline which only lately might be called a science, which is changing from day to day, whose traditional concepts are not necessarily sacrosanct and which should be approached first of all by way of physiology and internal medicine, although it has to be remembered that physiology is not yet prepared to supply the data underlying many of the concepts with which psychiatry must inevitably deal.

In the author's words the manual is offered to the student "as an aid and a guide in his work, and not as a primary source of knowledge. There is only one primary source for us all—the clinical material."

C. B. F.

In Memoriam.

WILLIAM KEMBLE WALKER.

1867-1938.

The first quarter of our century chronicles an important epoch in the development of psychiatry in Western Pennsylvania. The name of William Kemble Walker is vividly and vitally linked with this period. With his passing on March 24, 1938, at his home in Phœnixville, Pa., we are impressed with the thought that any record of psychiatric pioneering and progress in Western Pennsylvania during this time must assign a foremost place to Dr. Walker.

Although, because of poor health, Dr. Walker some 10 years ago chose a life of semi-retirement at his old family residence, his characteristic zest for advancing psychiatric frontiers persisted to the end.

Fortunately a most congenial professional outlet was afforded Dr. Walker during this period at the Wernersville State Hospital, nearby the Walker home, where his almost lifelong friend and former associate, Dr. Ralph Hill, resides as director. This association, with the affectionate companionship of the attractive Hill family, made life full and happy for him.

Dr. Walker was born at Phœnixville in 1867, a son of Thomas P. and Charlotte Walker. He was graduated from the University of Pennsylvania Medical School in 1891. He served as resident physician in the University Hospital and at the Philadelphia Orthopedic Hospital. Following studies in Paris, France, several years were devoted to the study and practice of ophthalmology, first with Dr. Charles Oliver in Philadelphia and later with Dr. H. V. Würdemann in Milwaukee. This specialty was abandoned when the office of assistant superintendent at Dixmont Hospital for the Insane near Pittsburgh was offered him. After a service there of 12 years he received the professorship of psychiaty in the University of Pittsburgh Medical School in 1909. He continued in

this position along with an active practice in neuropsychiatry until his retirement in 1927. He was married in this year to Miss Jean McLean Swain. During this period he was neuropsychiatrist to the Western Pennsylvania Hospital and member of the psychiatric staff of the St. Francis Hospital, Pittsburgh.

Dr. Walker's medical society affiliations included membership in the Allegheny County and Pennsylvania State Medical Societies, the Pittsburgh Academy of Medicine, the American Medical Association, the American Psychiatric Association, the Pittsburgh Neurological, the American Neurological, the American Psychopathological, the American and International Psychoanalytical Associations. He was a member of the University Club of Pittsburgh and the Pennsylvania and Valley Forge Historical Societies and was the author of numerous psychiatric papers. His medical fraternity was the Alpha Mu Pi Omega.

In commemorating the passing of men of distinction the gesture seems incomplete unless in addition to their achievements something of the living personality be recalled. Such an omission would be especially deprivative to the reader even in this brief obituary of a personality so outstanding as was that of Dr. Walker.

Of medium height, prematurely grey, erect in posture, Dr. Walker, with a somewhat massive bald forehead and clean cut features, narrowing to the closely cropped pointed beard, possessed an unusually dignified bearing and physiognomy.

In many ways Dr. Walker portrayed traits of the men found in the vanguard of psychiatric progress during the century's first quarter. This was the difficult period preparative to what I believe foreshadows psychiatry's emergence into its real renaissance. It has been of necessity a time of insistence upon the personal point of view when the new disciplines and the conceptions of such men as Bleuler, Freud, Jung, Meyer, Adler and others were breaking with traditional formulations and the spirit of military, authoritarianism and disputatiousness colored the activities of the pioneer. Dr. Walker was entirely too sensitive to exhibit these traits in an aggressive way but under a demeanor of patience and passivity such forces, nevertheless, dominated. In the absence of factual data loyalty to a theory or a personality was paramount. His keenly analytical mind eminently qualified him for the forensic medical activities in which he engaged.

Dr. Walker was intense in his friendships and his resentments were very strong. He was always meticulously gracious, tactfully deferential and dignified. As a raconteur he was unusually gifted. Those coming within the purlieu of his hospitality and friendship realized his wit, repartee and wealth of medical and literary knowledge. His psychiatric resources were generously dispensed and his admiring protegés will long remember him for his unstinted interest and encouragement.

He endured the great suffering incidental to his last illness valiantly and with good cheer. Beginning as a papilloma in the prostatic urethra the distressing condition terminated in a general carcinomatosis. Nature and his physicians conspired successfully in preventing his realizing the true nature of the malady.

C. C. WHOLEY.